

如何查 PACC 代码

PACC 代码是《Physics Abstracts, Classification and Contents》的缩略。PACC 专业代码是英国科学文摘 (INSPEC) 用于论文分类的代码。按照论文的内容将其分为十大类有 0000, 1000, ……5000, ……9000 表示, 例如: 凝聚物质由 6000 及 7000 表示, 其中 6000 内包括凝聚物质的结构、热学和力学性质, 而 7000 内包括凝聚物质的电子结构、电学、磁学和光学性质。再仔细分则由 6100……6200 等表示, 例如 6100 表示液体和固体结构。而 X 射线晶体结构测定及精确化技术表示固体结构的测定包含在 6100 中, 而用 6110M 来表示。所以要查出某一论文的 PACC 专业代码, 应先确定该论文主要内容属于哪一大类, 就在那一大类中找出其代码, 其次再找出该论文包括的其它次要内容的代码。

国际物理学分类表

PACC (Physics Abstracts, Classification and Contents)

0000	总论	GENERAL
0100	通讯、教育、历史和哲学	communication, education, history, and philosophy announcements, news, and organizational activities
0110	通报、消息和组织活动	announcements, news, and awards
0110C	通报、消息和颁奖	conferences, lectures, and institutes
0110F	会议、演讲和学会	physics organizational activities
0110H	物理学组织活动	physics literature and publications
0130	物理学文献及出版物	publications of lectures (advanced institutes, summer schools, etc.)
0130B	讲稿的出版(进修学院, 暑期学校等)	conference proceedings
0130C	会议录	monographs, and collections
0130E	专著和著作集	handbooks and dictionaries
0130K	手册和字典	collections of physical data, tables
0130L	物理数据、表格汇编	textbooks
0130N	教科书	reports, dissertations, theses
0130Q	报告、学位论文、论文	reviews and tutorial papers, resource letters
0130R	评论及教学参考论文, 资源通讯	bibliographies
0130T	书目	education
0140	教育	course design and evaluation
0140D	课程设置与评价	science in elementary and secondary school curricula, teaching methods, strategies, and evaluation
0140E	中小学科学	teacher training
0140G	课程设置, 教学方法, 策略和评价	educational aids (inc. equipment, experiments and teaching approaches to subjects)
0140J	教师培训	
0150	教具(包括设备和实验及教学用材料)	

0150F	视听教具、电影	audio and visual aids, films
0150H	计算机在教学中的使用	instructional computer use
0150K	试验理论和技术	testing theory and techniques
0150M	示范教学的实验和设备	demonstration experiments and apparatus
0150P	实验室实验和设备	laboratory experiments and apparatus
0150Q	实验室课程设置、组织和评价	laboratory course design, organization, and evaluation
0150T	建筑物和设备	buildings and facilities
0155	普通物理	general physics
0160	传记、历史和个人笔记	biographical, historical, and personal notes
0165	科学史	history of science
0170	科学哲学	philosophy of science
0175	科学与社会	science and society
0190	其他一般论题	other topics of general interest
0200	物理学中的数学方法	mathematical methods in physics
0210	代数、集合论和图论	algebra, set theory, and graph theory
	群论(量子力学中的代数方法见0365;基本粒子物理学中的对称见1130)	group theory(for algebraic methods in quantum mechanics, see 0365; for symmetries in elementary particle physics, see 1130)
0220	函数论,分析	function theory, analysis
0230	几何学、微分几何学和拓扑学(0400)	geometry, differential geometry, and topology(0400)
0240	相对论与引力	relativity and gravitation
0250	概率论、随机过程和统计学(0500)	probability theory, stochastic processes, and statistics(0500)
0260	统计物理学	statistical physics
0270	数字近似及分析	numerical approximation and analysis
0290	计算技术(数据处理与计算见0650)	computational techniques(for data handling and computation, see 0650)
0290	物理学中数学方法的其它论题	other topics in mathematical methods in physics
0300	经典及量子物理学;力学与场	classical and quantum physics; mechanics and fields
	离散系统的经典力学:一般数学问题(离散系统的应用经典力学见4610;天体力学见9510)	classical mechanics of discrete systems: general mathematical aspects (for applied classical mechanics of discrete systems, see 4610; for celestial mechanics, see 9510)
0320	狭义相对论	special relativity
0330	连续介质经典力学:一般数学问题	classical mechanics of continuous media: general mathematical aspects
0340	弹性力学的数学理论(4620)	mathematical theory of elasticity(4620)
0340D	连续介质力学,4630 固体力学)	mechanics, and 4630 mechanics of solids)
0340G	流体动力学:一般数学问题(4700)	fluid dynamics; general mathematical aspects(4700)
0340G	体动力学)	fluid dynamics)

0340K	波和波传播:一般数学问题(4630M 机械波和弹性波;4320 一般线性声学)	waves and wave propagation; general mathematical aspects(4630M mechanical and elastic waves, 4320 general linear acoustics)
0350	经典场论	classical field theory
0350D	麦克斯韦理论:一般数学问题(应用经典电动力学,见 4100)	Maxwell theory: general mathematical aspects(for applied classical electrodynamics, see 4100)
0350K	其它具体经典场论	other special classical field theories
0365	量子论;量子力学(0530 量子统计力学;相对论性波动方程,见 1110)	quantum theory; quantum mechanics(0530 quantum statistical mechanics;for relativistic wave equations, see 1110)
0365B	基础、测量理论、其它理论	foundations, theory of measurement, miscellaneous theories
0365C	形式论	formalism
0365D	泛函分析方法	functional analytical methods
0365F	代数方法(0220 群论;3115 分子物理学中计算方法)	algebraic methods(02 20 group theory; 3115 calculation methods in molecular physics)
0365G	波动方程解:边界态	solutions of wave equations: bound state
0365N	非相对论性散射理论	nonrelativistic scattering theory
0365S	半经典理论和应用	semiclassical theories and applications
0367	量子信息	Quantum information
0370	量子场论(1110 场论)	theory of quantized fields(1110 field theory)
0380	散射的一般理论(1120 S-矩阵论;1180 相对论性散射)	general theory of scattering(1120 S-matrix theory, and 1180 relativistic scattering)
0400	相对论与引力(狭义相对论,见 0330;相对论性天体物理学,见 9530;相对论性宇宙学,见 9880)	relativity and gravitation(for special relativity,see 0330;for relativistic astrophysics,see 9530;for relativistic cosmology,see 9880)
0420	广义相对论(0240 几何学和拓扑学)	general relativity (0240 geometry and topology)
0420C	基本问题和普通形式论	fundamental problems and general formalism
0420F	典型的形式论、拉氏函数和变分原理	canonical formalism, Lagrangians, and variational principles
0420J	方程解	solutions to equations
0420M	守恒定律和运动方程	conservation laws and equations of motion
0430	引力波和辐射:理论	gravitational waves and radiation: theory
0440	连续介质;电磁及其它混合引力系统	continuous media; electromagnetic and other mixed gravitational systems
0450	统一场论及其它引力理论	unified field theories and other theories of gravitation

0455	引力替代理论	alternative theories of gravitation
0460	引力的量子论	quantum theory of gravitation
0465	超引力	supergravity
		physics of black holes (see also 9760L black holes)
0470	黑洞物理学(参见 9760L 黑洞)	holes)
	广义相对论的实验检验及引力辐射	experimental tests of general relativity and
0480	观测	observations of gravitational radiation
		intermediate range forces (inc.fifth and sixth forces)
0485	中程力(包括第五和第六力)	forces)
0490	相对论和引力的其它论题	other topics in relativity and gravitation
		statistical physics and thermodynamics(0250
	统计物理学和热力学(0250 概率论、	probability thory,stochastic processes,and
0500	随机过程和统计学)	statistics)
0520	统计力学	statistical mechanics
0520D	分子运动论	kinetic theory
0520G	经典系综论	classical ensemble theory
		quantum statistic al mechanics(6700 quantum
	量子统计力学(6700 量子流体;7100	fluids, and 7100 electron states in condensed
0530	凝聚物质的电子态)	matter)
0530C	量子系综论	quantum ensemble theory
0530F	费米子系统和电子气	Fermion systems and electron gas
0530J	玻色子系统	Boson systems
		anyons and parastatistics (quantum statistical
0530L	任意子和仲统计学(量子统计力学)	mechanics)
		fluctuation phenomena, random processes, and
0540	涨落现象、随机过程和布朗运动	Brownian motion
	混沌系统的理论和模型(流体系统	theory and models of chaotic systems(for chaos in
0545	中的混沌, 见 4752)	flowing systems,see 4752)
	非线性动力学系统和分岔(流体系	nonlinear dynamical systems and bifurcations
0547	统中的分岔, 见 4752)	(bifurcations in flowing systems,see 4752)
	点阵理论和统计学;伊辛问题	lattice theory and statistics; Ising problems(7510H
0550	(7510H 伊辛模型)	Ising models)
0555	分形(流体系统中的分形, 见 4752)	fractals (fractals in flowing systems,see 4752)
0560	输运过程:理论	transport processes:theory
0565	自组织系统	Self-organized systems
		thermodynamics(4460 thermodynamic processes;
		6400 equation s of state, phase equilibria and
	热力学(4460 热力学过程;6400 状态	phase transitions; 6500 thermal properties of
	方程,相平衡和相变;6500 凝聚物质	condensed matter;for chemical thermodynamics,
0570	的热性质 ; 化学热力学,见 8260)	see 8260)
0570C	热力学函数及状态方程	thermodynamic functions and equations of state

0570F	相变:一般问题	phase transitions: general aspects
0570J	临界点现象	critical point phenomena
		nonequilibrium thermodynamics, irreversible
0570L	非平衡热力学、不可逆过程(3430 势能表面;8200 物理化学)	processes(3430 potential energy surfaces, 8200 physical chemistry)
0580	经济物理学	Econophysics
		other topics in statistical physics and
0590	统计物理学和热力学的其它论题	thermodynamics
	测量科学、普通实验室技术及测试	Measurement science, general laboratory
0600	设备系统	techniques, and instrumentation systems
0620	基本度量学	metrology
0620D	测量与误差理论	measurement and error theory
0620F	单位	units
0620H	测量标准和校正	measurement standards and calibration
0620J	基本常数测定	determination of fundamental constants
0630	基本变量测量	measurement of basic variables
		spatial variables measurement(inc.measurement
	空间变量测量(包括空间延伸的所	of all variables extending in space e.g. diameter,
	有变量如:直径、重量、厚度、位移、	weight, thickness, displacement, surface
	表面 拓扑学、粒子尺寸、弥散系统	topography, particle size, area of disperse
0630C	区)	systems)
0630E	质量与密度的测量	mass and density measurement
	时间与频率的测量(天文学方面的,	time and frequency measurement(for astronomical
0630F	见 9570)	aspects see 9570)
		velocity, acceleration and rotation
	速度、加速度和转动测量(流速测	measurement(for flow velocity measurement see
0630G	量,见 4780)	4780)
		measurement of basic electromagnetic
	基本电磁变量测量(0750 电学仪器	variables(0750 electrical instruments and
0630L	和技术)	techniques)
		measurement of mechanical variables(inc.elastic
	机械变量测量(包括弹性模量, 力, moduli,force,shock	,strain,stress,torque,and
	冲击, 应变, 应力, 力矩和振动)(压	vibration)(for pressure measurement,see
	力测 量, 见 0630N; 声学变量测	0630N;for acoustic variables measurement,see
	量, 见 4385D; 固体力学测量, 见	4385D;for measurement in the mechanics of
	4630R; 粘度测量, 见 4780; 材料	solids, see 4630R;for viscosity measurement,see
0630M	试 验, 8170)	4780;for materials testing,see 8170)
		pressure measurement(for vacuum measurement,
	压力测量(真空测量, 见 0730D; 高	see 0730D;for high-pressure techniques, see
0630N	压技术, 见 0735)	0735)

		data handling and computation(0270 computational techniques; 2980 nuclear information processing;for optical data processing , storage and retrieval see 4230; for geophysical data acquisition and storage see
0650	数据处理和计算(0270 计算技术;2980 核信息处理;光学数据处理,存贮及检索,见 423 0;地球物理数据	采集和存贮,见 9365) 9365)
0650D	数据搜集、处理、记录、数据显示(含数显技术)	data gathering, processing, and recording, data displays (including digital techniques)
0650M	计算装置与技术	computing devices and techniques
0660	实验室技术	laboratory techniques
0660E	样品制备	sample preparation
0660J	高速技术(微秒到微微秒)	high speed techniques (microsecond to picosecond)
0660S	微检验装置、微定位器和切片	micromanipulators, micropositioners , and microtomes
0660V	车间技术(焊接、机械加工、润滑用和轴承等)	workshop techniques (welding, machining, lubrication, bearings, etc.)
0660W	辐射剂量测定法;8760P 辐射防护)	safety(2880 radiation monitoring and protection, 8760M radiation dosimetry, 8760P radiation protection)
0670	普通测试设备	general instrumentation
0670D	敏感元件和探测器	sensing and detecting devices
0670E	试验设备	testing equipment
0670H	显示、记录与指示器	display, recording, and indicating instruments
0670M	换能器(电磁辐射换能器见 0762;声换能器见 4388;液流换能器见 4780)	transducers(for electromagnetic radiation transducers see 0762; for acoustic transducers see 4388; for flow transducers see 4780)
0670T	伺服及控制装置	servo and control devices
0690	测量科学、普通实验室技术及测试设备系统中的其它论题	other topics in measurement science, general laboratory techniques and instrumentation systems
0700	物理学中普遍使用的专用测试设备与技术(各分支学科的 专用测试设备与技术入 各自的分支学科)	specific instrumentation and techniques of general use in physics(within each subdiscipline for specialized instrumentation and techniques)
0710	机械仪器与测量方法(固体力学测量见 4630R;材料试验见 8170)	mechanical instruments and measurement methods(for measurement in the mechanics of solids, see 4630R; for materials testing, see 8170)
0710C	微机械器件和系统(微光学器件和技术, 见 4283)	micromechanical devices and systems (for microoptical devices and technology,see 4283)
0710F	隔振	vibration isolation

0710Y	其他机械仪器和技术(包括摆、陀螺仪、离心机)	other mechanical instruments and techniques(inc.pendulums,gyroscopes,centrifuges)
0720	热仪器和技术(4450 物质的热性质;4460 热力学过程;热辐射的辐射度学和检测, 见 0760D 和 0762)	thermal instruments and techniques(4450 thermal properties of matter, 4460 thermodynamic processes;for radiometry and detection of thermal radiation see 0760D and 0762)
0720D	温度测量	thermometry
0720F	量热学	calorimetry
0720H	加热炉	furnaces
0720K	高温技术及测试设备;测高温术	high temperature techniques and instrumentation; pyrometry
0720M	低温实验法	cryogenics
0725	测湿法	hygrometry
0730	真空产生与真空技术(包括低于 1 个大气压的压力;稀薄气体动力学入 4745;8115 G 真空淀积)	vacuum production and techniques(inc.pressures below 1 atmosphere; 4745 rarefied gas dynamics; 8115G vacuum deposition)
0730B	排空能力、除气、剩余气体	evacuating power, degasification, residual gas
0730C	真空泵	vacuum pumps
0730D	真空计	vacuum meters
0730G	真空设备及试验方法	vacuum apparatus and testing methods
0730K	辅助设备、器件及材料	auxiliary apparatus, hardware and materials
0735	高压产生与技术(包括大于 1 个大气压的压力)	high pressure production and techniques (inc.pressures above 1 atmosphere)
0750	电学仪器及技术	electrical instruments and techniques
0755	磁测量仪器及技术	magnetic instruments and techniques
0758	磁共振谱仪、辅助仪器和技术(6116N 电子顺磁共振和核磁共振测定)	magnetic resonance spectrometers, auxiliary instruments and techniques(6116N EPR and NMR determinations)
0760	光学仪器和技术(辐射探测见 0762;光谱学和光谱计见 0765;全息术见 4240;光源 和标准见 4272;光学透视镜和反射系统见 4278;光学器件、技术和应用见 4280;光学试验和加工技术见 4285;辐射谱仪和光谱技术见 2930;辐射测量、检测和计数见 2970)	optical instruments and techniques(for radiation detection, see 0762; for spectroscopy and spectrometers, see 0765; for holography, see 4240; for optical sources and standards, see 4272; for optical lens and mirror systems, see 4278; for optical devices , techniques and applications, see 4280; for optical testing and workshop techniques, see 4285; for radiation spectrometers and spectroscopic techniques, see 29 30; for radiation measurement, detection and counting, see 2970)

	光度学和辐射度学(包括色度学,辐	photometry and radio metry(inc.colorimetry;0762
0760D	射探测入 0762)	detection of radiation)
0760F	偏振测量术与椭圆偏振测量术	polarimetry and ellipsometry
0760H	折射测量术与反射测量术	refractometry and reflectometry
0760L	干涉量度学	interferometry
0760P	光学显微术	optical microscopy
	辐射探测(测辐射热计、光电管、红	detection of radiation (bolometers, photoelectric
0762	外波与亚毫米波探测)	cells, IR. and submillimetre waves detection)
		optical spectroscopy and
0765	光谱学与光谱计(包括光声谱术)	spectrometers(inc.photoacoustic spectroscopy)
0765E	紫外和可见光谱学与光谱仪	UV and visible spectroscopy and spectrometers
0765G	红外光谱学与光谱仪	IR spectroscopy and spectrometers
	照相术、照相仪器与技术(光敏材料	photography, photographic instruments and
	参见 4270;照相过程的化学参见	techniques(for light sensitive materials see also
0768	8250)	4270 for chemistry of photographic process see
		also 8250)
		mass spectrometers and mass spectrometry
0775	质谱仪与质谱测定技术(质谱化学	techniques(for mass spectroscopic chemical
	分析见 8280)	analysis, see 8280)
		particle beam production and handling;(2925
	粒子束的产生与处理;(2925 基本粒	particle sources and targets in elementary
	子和核物理中的粒子源和靶;4180	particle and nuclear physics, 4180 particle beams
0777	粒子束和 粒子光学)	and particle optics)
		scanning probe microscopy and related
		techniques(inc.scanning tunnelling
	扫描探针显微术及其相关技术(包	microscopy,atomic force microscopy,magnetic
	括扫描隧道显微术,原子力显微术、	force microscopy,friction force microscopy,and
	磁力显微术,摩擦力显微术,和近	near field scanning optical
0779	场扫描光学显微术,(结构测定方	microscopy)(structure determination aspects, see
	面,参见 6116P)	also 6116P)
	电子与离子显微镜及其技术(6116D	electron and ion microscopes and
0780	凝聚物质中的电子显微术;6116F 凝	techniques(6116D in condensed matter electron
	聚物质中的场离子显微术)	microscopy, 6116F field ion microscopy)
		electron and ion spectrometers and related
	电子和离子谱仪及其相关技术(参	techniques(see also 2930 radiation spectrometers
0781	见 2930 辐射谱仪和光谱技术)	and spectroscopic techniques)
	X 射线与 γ 射线仪器与技术(包括穆	X-ray, gamma-ray instruments and techniques
0785	斯堡尔谱仪和技术)	(inc.Moessbauer spectrometers and technique s)

- particle interferometry and neutron
 粒子干涉量度学和中子仪器(粒子instrumentation(for particle beam production and
 束的产生与处理,参见 0777;中子谱handling,see 0777;for neutron spectrometers,see
 仪,参见 2930H,原子干涉量度also 2930H;for atomic interferometry,see also
 0788 学,参见 3580 粒子光学,参见 4180)3580;for particle optics,see also 4180)
 0790 专用设备中的其它论题 other topics in specialised instrumentation

**THE PHYSICS OF ELEMENTARY PARTICLES
 AND FIELDS(for cosmic rays ,see 9440;for high**

- 1000 基本粒子物理与场(宇宙线见 9440;energy experimental techniques and
 高能实验技术和设备见 2900) instrumentation, see 2900)**

- 场和粒子的一般理论(0365 量子力general theory of fields and particles(0365
 学;0370 量子场论;0380 散射的一般quantum mechanics, 0370 theory of quantized
 1100 理论) fields, 0380 general theory of scattering)
 1110 场论 field theory
 1110C 公理法 axiomatic approach
 1110E 拉氏函数和哈密顿函数法 Lagrangian and Hamiltonian approach
 1110G 重正化 renormalization
 1110J 渐近问题与特性 asymptotic problems and properties
 1110L 非线性或非局域理论及模型 nonlinear or nonlocal theories and models
 1110M 史文格源理论 Schwinger source theory
 1110N 规范场论 gauge field theories
 1110Q 相对论性波动方程 relativistic wave equations
 束缚与非稳定态;贝特-沙耳皮特方bound and unstable states; Bethe-Salpeter
 1110S 程 equations
 1110W 有限温度场论 finite temperature field theory
 弦理论和其他扩展物质理论(包括theories of strings and other extended
 1117 超弦和膜) objects(inc.superstrings and membranes)
 1120 S-矩阵论 S-matrix theory
 1120D 散射矩阵和微扰论 scattering matrix and perturbation theory
 dispersion relations and analytic properties of the
 1120F 色散关系和 S 矩阵的分析特性 S-matrix
 symmetry and conservation laws(0220 group
 1130 对称和守恒定律(0220 群论) theory)
 1130C 洛伦兹与庞加莱不变性 Lorentz and Poincare invariance
 电荷共轭、宇称、时间反演和其它charge conjugation, parity, time reversal and other
 1130E 分立对称 discrete symmetries
 1130J SU(2)和 SU(3)对称 SU(2) and SU(3) symmetries
 1130K SU(4)对称 SU(4) symmetry
 1130L 其他内部对称和高度对称 other internal and higher symmetries
 非线性对称和动力学对称性(谱生nonlinear and dynamical symmetries (spectrum
 1130N 成对称) generating symmetries)
 1130P 超对称 supersymmetry

1130Q	自发性对称破缺	spontaneous symmetry breaking
1130R	手征对称	chiral symmetries
1140	流及其特性	currents and their properties
1140D	流的一般理论	general theory of currents
1140F	流代数的拉格朗日算法	Lagrangian approach to current algebras
1140H	部分守恒轴矢量流	partially conserved axial vector currents
1150	色散关系与求和定则	dispersion relations and sum rules
1150E	n/d 法	n/d method
1150G	靴襻	bootstraps
1150J	交叉对称	crossing symmetries
1150L	求和定则	sum rules
1150N	多变量色散关系(包括曼德斯坦表象)	multivariable dispersion relations(inc.Mandelstam representation)
1160	复合角动量;雷其(理论)体系(0380一般散射理论;1240 强相互作用中的复合角动量)	complex angular momentum; Regge formalism(0380 general theory of scattering, 1240 in strong interactions)
1180	相对论性散射理论(0380 一般散射理论)	relativistic scattering theory (0380 general theory of scattering)
1180C	运动特性(螺旋性和不变振幅、运动奇异性等)	kinematical properties (helicity and invariant amplitudes, kinematic singularities, etc.)
1180E	部分波分析	partial wave analysis
1180F	近似法(程函近似法,变分原理等)	approximations (eikonal approximation, variational principles, etc)
1180G	多道散射	multichannel scattering
1180J	多体散射和 Faddeev 方程	Many-body scattering and Faddeev equation
1180L	多次散射	multiple scattering
1190	一般场论和粒子理论的其他论题	other topics in general field and particle theory
1200	具体理论和相互作用模型;粒子分类系统	specific theories and interaction models; particle systematics
1210	统一场论和模型	unified field theories and models
1210B	电弱理论	electroweak theories
1210C	统一化标准模型	standard model of unification
1210D	标准模型以外的统一模型(包括 GUTS, 颜色模型和 SUSY 模型)	unified models beyond the standard model(inc.GUTS,technicolour and SUSY models)
1220	电磁相互作用模型	models of electromagnetic interactions
1220D	量子电动力学的具体计算和极限	specific calculations and limits of quantum electrodynamics
1220F	量子电动力学的实验检验	experimental tests of quantum electrodynamics
1225	引力相互作用模型(0460 引力的量	models for gravitational interactions(0460

	子论)	quantum theory of gravitation)
1230	弱相互作用模型	models of weak interactions
1230C	中子流	neutral currents
1230E	中间玻色子	intermediate bosons
1235	粒子的复合模型	composite models of particles
	量子色动力学的一般特性(动力学,禁闭等)	general properties of quantum chromodynamics (dynamics, confinement, etc.)
1235C	量子色动力学在粒子特性和反应中的应用	applications of quantum chromodynamics to particle properties and reactions
	粒子的结构和反应的唯象复合模型(部分子模型,口袋模型等)	phenomenological composite models of particle structure and reactions (partons, bags, etc.)
1235H	其它复合模型(包括复合夸克模型和轻子模型)	other composite models(inc.composite quarks and leptons)
1235K		
1240	强相互作用模型	models of strong interactions
1240E	统计模型	statistical models
1240F	靴襻模型	bootstrap models
1240H	二重性和双关模型	duality and dual models
1240K	强子分类方案	hadron classification schemes
	复合角动量平面;雷其极点和割线(雷其子)(1160 复合角动量,雷其体系的一般理论)	complex angular momentum plane; Regge poles and cuts (Reggeons)(1160 for general theory)
1240M		absorptive, optical, and eikonal models(for
	吸收模型,光学模型和程函模型(衍射和衍射生成模型见 1240S)	diffraction and diffractive production models, see 1240S)
1240P		
1240Q	势模型	potential models
	边缘碰撞模型(一个或多个粒子交换)	peripheral models (one or more particle exchange)
1240R		multiperipheral and multi Regge
	多重边缘碰撞模型和多雷其模型(包括衍射和衍射生成模型)	models(inc.diffraction and diffractive production models)
1240S		
1240V	矢量介子优势	Vector-meson dominance
1270	强子质量公式	hadron mass formulas
1290	其它各种理论设想与模型	miscellaneous theoretical ideas and models
	具体基本粒子反应和唯象论	specific elementary particle reactions and phenomenology
1300	轻子间的弱相互作用和电磁相互作用	
1310	用	weak and electromagnetic interactions of leptons
	中微子相互作用(包括宇宙射线相互作用)	neutrino interactions(inc.interactions involving cosmic rays)
1315		
1320	介子的轻子与半轻子衰变	leptonic and semileptonic decays of mesons

1320C	π 衰变	pi decays
1320E	K 衰变	K decays
1320G	Ψ /J 介子、Y 介子、 Φ 介子	psi/J, upsilon, phi mesons
1320H	B 介子轻子/半轻子衰变	B meson leptonic/semileptonic decays
1320I	f 介子轻子/半轻子衰变	f meson leptonic/semileptonic decays
1320J	其它介子衰变	other meson decays
1325	介子的强子衰变	hadronic decays of mesons
1330	重子的衰变	decays of baryons
1330C	轻子与半轻子衰变	leptonic and semileptonic decays
1330E	强子衰变	hadronic decays
1335	轻子的衰变	decays of leptons
1338	中间玻色子和希格斯玻色子的衰变	decays of intermediate and Higgs Bosons
1340	电磁过程与特性	electromagnetic processes and properties
1340D	电磁质量差	electromagnetic mass differences
		electromagnetic form factors; electric and
1340F	电磁形状因子、电矩和磁矩	magnetic moments
1340H	电磁衰变	electromagnetic decays
	强相互作用和弱相互作用过程的电	electromagnetic corrections to strong and weak
1340K	磁修正	interaction processes
	光子及带电轻子与强子的相互作用	photon and charged lepton interactions with
1360	(中微子相互作用见 1315)	hadrons(for neutrino interactions, see 1315)
1360F	弹性散射与康普顿散射	elastic and Compton scattering
	总截面和单举(反应)截面(包括深度	total and inclusive cross
1360H	非弹性过程)	sections(inc.deep-inelastic processes)
1360K	介子产生	meson production
1360M	介子共振产生	Meson-resonance production
1360P	重子和重子共振产生	baryon and baryon resonance production
1365	电子-正电子碰撞产生强子	hadron production by electron-positron collisions
		Hadron-induced low energy and intermediate
	强子诱发的低能和中能反应及散射	energy reactions and scattering, energy ≤ 10
1375	(能量 $\leq 10\text{GeV}$ 见 1385)	GeV(for higher energies, see 1385)
	核子-核子相互作用,包括反核子和	Nucleon-nucleon interactions, including
	氘核等(能量 $\leq 10\text{GeV}$;核中的核子-	antinucleon, deuteron, etc. (energy ≤ 10
1375C	核子相互作用见 2130)	GeV)(for n-n interactions in nuclei, see 2130)
1375E	超子-核子相互作用(能量 $\leq 10\text{GeV}$)	Hyperon-nucleon interactions (energy $\leq 10\text{ GeV}$)
	π 介子-重子相互作用(能量 \leq	
1375G	10GeV)	Pion-baryon interactions (energy $\leq 10\text{ GeV}$)
	K 介子-重子相互作用(能量 \leq	
1375J	10GeV)	Kaon-baryon interactions (energy $\leq 10\text{ GeV}$)

1375L	介子-介子相互作用(能量 $\leq 10\text{GeV}$)	Meson-meson interactions (energy $\leq 10\text{ GeV}$)
1380	光子-光子相互作用和散射	Photon-photon interactions and scattering
	强子诱发的高能和超高能相互作用	Hadron-induced high-energy and super-high-energy interactions, energy > 10
1385	(能量 $>10\text{GeV}$)(低能情况见 1375)	GeV(for low energies, see 1375)
1385D	弹性散射(能量 $=10\text{GeV}$)	elastic scattering (energy = 10 GeV)
	非弹性散射、双粒子终态(能量	inelastic scattering, two-particle final states
1385F	$>10\text{GeV}$)	(energy $> 10\text{ GeV}$)
	非弹性散射、多粒子终态(能量	inelastic scattering, many-particle final states
1385H	$>10\text{GeV}$)	(energy $>10\text{GeV}$)
	单举反应, 包括总截面(能量	inclusive reactions, including total cross sections,
1385K	$>10\text{GeV}$)	(energy $> 10\text{ GeV}$)
1385M	宇宙射线相互作用(9440 宇宙线)	cosmic ray interactions(9440 cosmic rays)
	强子诱发的高能相互作用(能量	hadron induced very high energy
1385N	$>1\text{TeV}$)	interactions(energy $>1\text{ TeV}$)
1387	大 Q2 基本粒子相互作用中的射流	jets in large-Q2 elementary particle interactions
1388	相互作用和散射中的极化	polarisation in interactions and scattering
	基本粒子的具体反应及唯象论的其	other topics in specific reactions and
1390	它论题	phenomenology of elementary particles
1400	具体粒子的性质与共振	properties of specific particles and resonances
1420	重子与重子共振(包括反粒子)	baryons and baryon resonances(inc.antiparticles)
1420C	中子	neutrons
1420E	质子	protons
1420G	s=0 时的重子共振	baryon resonances with s=0
1420J	超子和超子共振	hyperons and hyperon resonances
1420P	双重子	dibaryons
1440	介子和介子共振	mesons and meson resonances
1440D	π 介子	pi mesons
1440F	K 介子	K mesons
1440K	P 介子、 Ω 介子和 η 介子	rho, omega, and eta mesons
1440L	d 介子和 F 介子	d and F mesons
1440N	Ψ/J 介子、Y 介子、 Φ 介子	psi/J, upsilon, phi mesons
1440P	其它介子	other mesons
1460	轻子	leptons
1460C	电子和正电子	electrons and positrons
1460E	μ 介子	muons
1460G	中微子	neutrinos
1460J	重轻子	heavy leptons
1480	其它粒子和假设粒子	other and hypothetical particles

1480A	光子	photons
1480D	夸克和胶子	quarks and gluons
1480F	中间玻色子	intermediate Bosons
1480H	磁单极子	magnetic monopoles
1480J	超对称粒子(包括标量粒子, 超粒子和超离子)	Supersymmetric particles(inc.scalar particles,superparticles and superions)
1480K	其它(包括快子)	others(inc.tachyons)
2000	核物理学	NUCLEAR PHYSICS
2100	核结构	nuclear structure
	核的一般和平均性质;核能级性质(按质量范围分类的具体核的性质)	general and average properties of nuclei; properties of nuclear energy levels(for properties of specific nuclei listed by mass ranges, see 2700)
2110	见 2700)	of specific nuclei listed by mass ranges, see 2700)
2110D	结合能和质量	binding energy and masses
2110F	形状、电荷、半径和形状因子	shape, charge, radius and form factor s
2110H	自旋、宇称和同位旋	spin, parity, and isobaric spin
2110J	谱因子	spectroscopic factors
2110K	电磁矩	electromagnetic moments
2110M	能级密度和结构	level density and structure
2110P	单粒子能级结构	single particle structure in levels
2110R	集团能级结构(包括旋转能带)	collective structure in levels(inc.rotational bands)
2110S	库仑效应	Coulomb effects
2130	核力(1375C 核子-核子相互作用)	nuclear forces(1375C nucleon-nucleon interactions)
2140	少核子系统	Few-nucleon systems
2160	核结构模型与方法(强子的原子和分子见 3610)	nuclear structure models and methods(for hadronic atoms and molecules, see 3610)
2160C	壳层模型	shell model
2160E	集体模型	collective models
2160F	群论模型	models based on group theory
2160G	集团模型	cluster models
2160J	哈特里-福克和随机-相位近似	Hartree-Fock and random-phase approximations
2165	核物质	nuclear matter
2180	超核	hypernuclei
2190	核结构的其它论题	other topics in nuclear structure
2300	放射性和电磁跃迁(8255 放射化学)	radioactivity and electromagnetic transitions(8255 radiochemistry)
2320	电磁跃迁	electromagnetic transitions
2320C	寿命和跃迁几率	lifetimes and transition probabilities
2320E	角分布和校正测量	angular distribution and correlation measurements

2320G	多极混合比率	multipole mixing ratios
2320J	多极矩阵元素	multipole matrix elements
2320L	γ 跃迁和能级	gamma transitions and level energies
2320N	内转换和核外效应	internal conversion and extranuclear effects
2320Q	核共振荧光	nuclear resonance fluorescence
2340	β 衰变;电子与 μ 子俘获	beta decay; electron and muon capture
2340B	弱相互作用和 β 衰变的轻子特性	weak interaction and lepton aspects of beta decay
2340H	核矩阵元和从 β 衰变推断核结构	nuclear matrix elements and nuclear structure inferred from beta decay
2360	α 衰变	alpha decay
2390	核衰变和放射性的其它论题	other topics in nuclear decay and radioactivity
2400	核反应和散射:总论	nuclear reactions and scattering:general
2410	核反应和散射模型与方法	nuclear reaction and scattering models and methods
2410D	耦合道和多体论方法	coupled channel and many body theory methods
2410F	平面和扭曲波玻恩近似法	Plane- and distorted-wave Born approximations
2410H	光学模型和衍射模型	optical and diffraction models
2430	共振反应与散射	resonance reactions and scattering
2430C	巨共振	giant resonances
2430F	同位旋相似共振	isobaric analog resonances
2450	直接反应	direct reactions
2460	统计理论和涨落	statistical theory and fluctuations
2470	反应和散射中的极化	polarization in reactions and scattering
2475	裂变的一般性质	general properties of fission
2485	原子核和核形成过程的夸克模型	quark models in nuclei and nuclear processes
2490	核反应和散射的其它论题:一般问题	other topics in nuclear reactions and scattering:general
2500	核反应和散射:具体反应	nuclear reactions and scattering:specific reactions
2510	少核子系统的核反应与散射	nuclear reactions and scattering involving few-nucleon systems
2520	光致核反应和光子散射	photonuclear reactions and photon scattering
2530	轻子诱发反应与散射	Lepton-induced reactions and scattering
2530C	电子和正电子反应与散射	electron and positron reactions and scattering
2530E	μ 介子反应和散射	muon reactions and scattering
2530G	中微子反应和散射	neutrino reactions and scattering

	核子诱发反应与散射(2820 中子物	Nucleon-induced reactions and scattering(2820
2540	理学)	neutron physics)
2540C	弹性质子散射	elastic proton scattering
2540D	弹性中子散射	elastic neutron scattering
2540E	非弹性质子散射和(p,n)反应	inelastic proton scattering and (p, n) reactions
2540F	非弹性中子散射和(n,p)反应	inelastic neutron scattering and (n, p) reactions
2540G	单核子传递反应	single nucleon transfer reactions
2540J	少核子传递反应	few nucleon transfer reactions
2540L	辐射俘获	radiative capture
	高于介子生成阈值(能量=400MeV)	reactions and scattering above meson production
2540P	的反应与散射	thresholds (energies = 400 MeV)
2540S	散裂反应	spallation reactions
2550	^2H 和 ^3H 诱发反应与散射	^2H and ^3H induced reactions and scattering
2550D	弹性、非弹性和电荷交换反应	elastic, inelastic and charge exchange reactions
2550G	单核子传递反应	Single-nucleon transfer reactions
2550J	少核子传递反应	few nucleon transfer reactions
2560	^3He 和 ^4He 诱发反应与散射	^3He and ^4He induced reactions and scattering
2560C	弹性、非弹性和电荷交换反应	elastic, inelastic and charge exchange reactions
2560E	单核子传递反应	Single-nucleon transfer reactions
2560F	少核子传递反应	few nucleon transfer reactions
2570	重离子诱发反应与散射	heavy ion induced reactions and scattering
2570B	反应机理	reaction mechanisms
2570D	少核子传递	few nucleon transfers
2570E	共振	resonances
2570G	复合核性质和衰变	compound nucleus properties and decays
2570H	弹性、非弹性和电荷交换反应	elastic, inelastic, and charge exchange reactions
2570J	聚变反应堆和聚变-裂变反应堆	fusion and fusion-fission reactions
2570K	库仑激发	Coulomb excitation
2570N	碎裂和相对论性碰撞	fragmentation and relativistic collisions
		Meson-induced and hyperon-induced reactions
2580	介子和超子诱发的反应和散射	and scattering
2585	裂变反应	fission reactions
2585C	自发裂变	spontaneous fission
2585E	中子诱发裂变	neutron induced fission
2585G	带电粒子诱发裂变	charged particle induced fission
2585J	光致裂变	photofission
2587	核碎裂	nuclear fragmentation

2588	聚变反应	fusion reactions
	核反应与散射的其它论题:具体反应	other topics in nuclear reactions and scattering: specific reactions
2590	应	
2700	以质量范围分类的具体核的性质	properties of specific nuclei listed by mass ranges
2710	$a \leq 5$	$a \leq 5$
2720	$6 \leq a \leq 19$	$6 \leq a \leq 19$
2730	$20 \leq a \leq 38$	$20 \leq a \leq 38$
2740	$39 \leq a \leq 58$	$39 \leq a \leq 58$
2750	$59 \leq a \leq 89$	$59 \leq a \leq 89$
2760	$90 \leq a \leq 149$	$90 \leq a \leq 149$
2770	$150 \leq a \leq 189$	$150 \leq a \leq 189$
2780	$190 \leq a \leq 219$	$190 \leq a \leq 219$
2790	$220 \leq a$	$220 \leq a$
	核工程和核动力研究(8610 能源及其利用)	nuclear engineering and nuclear power studies(8610 energy resources and their utilisation)
2800	中子物理学(2540 核子诱发的反应和散射)	neutron physics(2540 nucleon-induced reactions and scattering)
2820	中子散射	neutron scattering
2820C	中子吸收	neutron absorption
2820F	中子扩散	neutron diffusion
2820H	中子慢化	neutron moderation
2820L		
2841	裂变反应堆理论与设计	fission reactor theory and design
2841C	计算机编码	computer codes
2841D	裂变反应堆设计	fission reactor design
2841E	裂变反应堆理论和物理学	fission reactor theory and physics
2842	裂变反应堆材料	fission reactor materials
2842D	释热元件	fuel elements
	核燃料制备与后处理(包括同位素分离和浓缩)	fuel preparation and re processing(inc.isotope separation and enrichment)
2842H		
	放射性废物(2875 放射性废物、运输、排放、储存和处理)	radioactive wastes(2875 radioactive waste, transportation, disposal, storage, treatment)
2842K	冷却剂	coolants
2842N	慢化剂	moderators
2842P	结构和屏蔽材料	structural and shielding materials
2842Q	裂变反应堆冷却剂循环用材料(包括蒸气发生器管道)	fission reactor coolant circuit materials(inc.steam generator tubes)
2842R		
2843	裂变反应堆操作	fission reactor operation
2843B	冷却与热回收	cooling and heat recovery
2843D	反应堆堆芯控制与操纵	core control and guidance
2843F	裂变反应堆的维护和储运损耗	fission reactor maintenance and outages

2843G	裂变反应堆的控制室(包括设计和操作训练)	fission reactor control rooms(inc.design and operator training)
2843H	裂变反应堆实验及测量设备	instrumentation and experiments with fission reactors
2844	裂变反应堆防护系统、安全和故障	fission reactor protection systems , safety and accidents
2846	核材料(安全性方面)	nuclear materials:safety aspects
2846C	核防护装置(包括材料的估算和可靠性)	nuclear safeguards(inc.material accountancy and security)
2846E	核临界安全性	nuclear criticality safety
2846G	核材料的封装和运输	packaging and transportation of nuclear materials
2847	裂变反应堆退出运行	fission reactor decommissioning
2850	裂变反应堆类型及应用	fission reactor types and applications
2850D	研究、试验和训练反应堆	research, test and training reactors
2850F	快堆(包括增殖堆)	fast reactors(inc.breeder reactors)
2850G	轻水反应堆	light water reactors
2850I	气冷反应堆	gas cooled reactors
2850J	重水反应堆	heavy water reactors
2850K	推进用反应堆	propulsion reactors
2850P	核电站	power plants
2852	聚变堆(约束见 5255)	fusion reactors(for confinement, see 525 5)
2852C	点火	ignition
2852F	材料	materials
2852J	理论和设计(包括粒子输运)	theory and design(inc.particle transport)
2852L	仪器	instrumentation
2852N	聚变反应堆安全	fusion reactor safety
2858	综合反应堆系统	integrated reactor systems
2858C	联合聚变反应堆系统	synergetic fission reactor systems
2858E	裂变和聚变系统	fission & fusion systems
2858G	散裂增殖反应堆	spallation breeders
2870	核爆炸(4740 冲击波和爆震现象)	nuclear explosions(4740 shock and detonation phenomena)
2875	放射性废物、运输、排放、储存和处理(裂变反应堆产生的废物见 2842)	radioactive waste, transportation, disposal, storage, treatment(for waste generated in fission reactors see also 2842)
2880	辐射技术,包括屏蔽(8760 场、辐射和放射性在医学和生物医学中的利用)	radiation technology, including shielding(8760 medical and biomedical uses of fields, radiations and radioactivity)
2880C	剂量学	dosimetry
2880F	辐射监测与辐射防护	radiation monitoring and radiation protection

		other topics in nuclear engineering and nuclear power studies
2890	核工程与核动力研究的其它论题	
2900	基本粒子与核物理学的实验方法和设备	experimental methods and instrumentation for elementary particle and nuclear physics
2910	预加速(注入)	preacceleration (injection)
2915	静电加速器和直线粒子加速器	electrostatic and linear particle accelerators
2915B	静电加速器	electrostatic accelerators
2915D	直线加速器(包括电子环加速器)	linear accelerators(inc.electron ring accelerators)
2920	环状加速器与存储装置(等离子体加速器见 5275)	cyclic accelerators and storage facilities(for plasma accelerators, see 5275)
2920D	存贮环	storage rings
2920F	电子感应加速器	betatrons
2920H	回旋加速器	cyclotrons
2920J	同步回旋加速器	synchrocyclotrons
2920L	同步加速器	synchrotrons
2921	粒子加速器中的粒子束(包括特性,动力学和处理)	beams in particle accelerators (inc.characteristics,dynamics and handling)
2925	粒子源和靶、制备与技术(0777 粒子的生成与处理;靶)	particle sources and targets, preparation and technology(0777 particle production and handling; targets)
2925B	电子源	electron sources
2925C	离子源:正离子源,负离子源和极化离子源	ion sources: positive, negative and polarized
2925D	中子源	neutron sources
2925E	辐射源	radioactive sources
2925F	束流控制、束流聚焦、束流脉动和剥离等	beam handling, focusing, pulsing and stripping, etc
2925G	核轰击靶	nuclear bombardment targets
2925K	极化靶	polarized targets
2930	辐射谱仪和光谱技术	radiation spectrometers and spectroscopic techniques
2930D	重带电粒子光谱学	heavy charged-particle spectroscopy
2930E	α -射线光谱学	Alpha-ray spectroscopy
2930F	β -射线光谱学	Beta-ray spectroscopy
2930H	中子光谱学	neutron spectroscopy
2930K	X射线和 γ 射线光谱学	X-ray and gamma-ray spectroscopy
2940	辐射探测器(质谱仪见 0775)	radiation detectors(for mass spectrometers, see 0775)
2940B	电离室	ionization chambers

2940C	正比计数器:多丝正比室	proportional counters;multiwire proportional chambers
2940D	云室	cloud chambers
2940F	气泡室	bubble chambers
2940H	火花室和其它径迹室	spark chambers and other track chambers
2940K	契伦科夫探测器	Cerenkov detectors
2940M	闪烁探测器;闪烁器和光电倍增管	scintillation detectors; scintillators and photomultipliers
2940P	半导体探测器	semiconductor detectors
2940R	核乳胶	nuclear emulsions
2940S	盖革管	Geiger tubes
2940T	位置灵敏探测器	position sensitive detectors
2940W	固态核径迹探测器(包括塑料和硝酸纤维探测器)	Solid-state nuclear track detectors(inc.plastic and cellulose nitrate detectors)
2940X	超导粒子探测器	superconducting particle detectors
2960	计数线路与核电子学	counting circuits and nuclear electronics
2960C	基本功能部件:供电部件、放大器等	basic function units; supply units, amplifiers, etc
2960E	脉冲计数部件;计数定标器、分析器等	pulse counting assemblies; counting scalers, analyzers, etc
2960G	脉冲电路	pulse circuits
2960J	辐射监测器	radiation monitors
2970	辐射测量、探测与计数(2930 辐射谱仪和光谱学;2940 辐射探测器;辐射剂量学 见 876 0M)	radiation measurement, detection and counting(2930 radiation spectrometers and spectroscopy, 2940 radiation detectors;for dosimetry, see 8760M)
2970D	角度校正技术	angular correlation techniques
2970F	符合技术(参见 0660J 高速技术)	coincidence techniques (see also 0660J high-speed techniques)
2970G	能量损失与能量范围关系	energy loss and energy range relations
2970J	辐射探测综合方法	integral methods of radiation detection
2975	极化分析(基本粒子物理和核物理)	polarization analysis(elementary-particle and nuclear physics)
2980	核信息处理	nuclear information processing
2980C	计算机系统	computer systems
2980F	程序设计	programming
2990	高能 and 核实验方法及仪器的其它论题	other topics in high-energy and nuclear experimental methods and instrumentation
3000	原子和分子物理(物理化学见 8200)	ATOMIC AND MOLECULAR PHYSICS (for physical chemistry,see 8200)
3100	原子和分子理论(7100 凝聚物质电子态)	theory of atoms and molecules(7100 electron states in condensed matter)

3110	结构、跃迁和化学键联的一般理论	general theory of structure, transitions and chemical binding
3115	一般数学和计算技术的发展	general mathematical and computational developments
3120	具体计算和计算结果	specific calculations and results
3120A	从头计算(原子和分子)	ab initio calculations(atoms and molecules)
3120B	SCF 和 HF 计算(原子和分子)(DF 计算参见 3130J)	SCF and HF calculations(atoms and molecules)(DF calculations,see also3130J)
3120C	耦合团簇计算(原子和分子)	coupled cluster calculations(atoms and molecules)
3120D	ab initio 计算(对小核素作精确或近乎精确的计算)	complete ab initio calculations (exact or nearly exact calculations on small species)
3120E	ab initio 的 LCAO 及 GO SCF 计算 其它 ab initio 精确的及近乎精确的计算(DIM 方法、SAMO 方法、X α 方法等等)	ab initio LCAO and GO SCF calculations other accurate, or nearly ab initio calculations (DIM method, SAMO method, X α method etc.)
3120G	X α 方法(原子和分子)	Xalpha methods(atoms and molecules)
3120J	局域密度近似法(原子和分子)	local density approximation(atoms and molecules)
3120L	统计模型的计算(托马斯-费米及托马斯-费米-狄喇克模型)	statistical model calculations (Thomas-Fermi and Thomas-Fermi-Dirac models)
3120N	半经验 NDO 计算(CNDO、INDO、MINDO、PCILO 方法等)	Semi-empirical NDO calculations (CNDO, INDO, MINDO, PCILO methods, etc.)
3120P	其它半经验计算(赫克计算及广义的赫克计算,PPP 方法等)	Other semi-empirical calculations (Huckel, generalized Huckel, PPP methods, etc.)
3120R	价键的计算(ab initio 或 not ab initio)	valence bond calculations (ab initio or not ab initio)
3120T	电子相关和 CI 计算	electron correlation and CI calculations
3120W	经验方法(构造的非量子方法)	empirical methods (nonquantum methods for conformations)
3130	电子结构、相互作用的修正与效应	electronic structure, corrections and effects of interactions
3130G	超精细相互作用及同位素效应	hyperfine interactions and isotope effects
3130J	辐射效应和相对论性效应	radiative and relativistic effects
3130L	环境和溶剂效应	environmental and solvent effects
3130N	分子固体	molecular solids
3150	受激态	excited states
3180	表面势能(原子和分子)	potential energy(atoms and molecules)
3190	原子及分子理论的其它论题(包括非能量方面的性质)	other topics in the theory of atoms and molecules(inc.properties other than energy)

3200	原子光谱及原子与光子相互作用	atomic spectra and interactions with photons
3220	按波长范围分类的原子光谱	atomic spectra grouped by wavelength ranges
3220D	射频和微波谱	radiofrequency and microwave spectra
3220F	红外和喇曼光谱	infrared and Raman spectra
3220J	可见及紫外光谱(荧光和磷光光谱 见 3250)	visible and ultraviolet spectra(for fluorescence and phosphorescence spectra, see 3250)
3220R	X 射线谱	X-ray spectra
3240	磁共振谱	magnetic resonance spectra
3250	荧光、磷光;无辐射跃迁	fluorescence, phosphorescence; radiationless transitions
3250F	荧光、磷光(包括猝灭)	fluorescence, phosphorescence(inc.quenching)
3250H	无辐射跃迁	radiationless transitions
3260	磁光和电光效应: 双折射,二向色性 和旋光性	magneto-optical and electro-optical effects in atoms:birefringence, dichroism and optical activity
3260S	斯塔克效应	Stark effect
3260V	塞曼效应	Zeeman effect
3270	谱线的形状和强度	spectral line shapes and intensities
3270C	振子强度, 跃迁矩	oscillator strengths, transition moments lifetimes, absolute and relative intensities, transition probabilities
3270F	寿命、绝对和相对强度、跃迁概率	transition probabilities
3270J	谱线形状、宽度及位移	line shapes, widths, and shifts
3280	光子与原子相互作用	photon interactions with atoms level crossing, optical pumping, population inversion
3280B	能级交叉、光抽运及粒子数反转	inversion
3280D	自电离	autoionization
3280F	光致电离、光致分离和光电子谱	photoionization, photodetachment, photoelectron spectra
3280H	俄歇效应及内壳层电离	Auger effect and inner-shell ionization
3280K	多光子过程	multiphoton processes
3280P	原子的光学冷却; 俘获	optical cooling of atoms;trapping
3290	原子光谱及原子与光子相互作用的 其它论题	other topics in atomic spectra and interactions with photons
3300	分子光谱及分子与光子相互作用	molecular spectra and interactions with photons
3310	分子光谱的计算	calculation of molecular spectra
3310C	计算方法(包括新的理论方法及群 论的应用)(0365 量子力学的代数方 法)	calculational methods(inc.new theoretical techniques and applications of group theory)(0365 algebraic methods in quantum mechanics)
3310E	转动分析	rotational analysis

3310G	振动分析	vibrational analysis
3310J	振动-转动分析	Vibrational-rotational analysis
3310L	振动相互作用, 转振相互作用和转动-电子-自旋相互作用	vibronic, rovibronic, and rotation-electron-spin interactions
3320	按波长范围分类的分子光谱(磁光和电光谱见 3345; 荧光和磷光谱见 3350; 光电子谱见 3365)	molecular spectra grouped by wavelength ranges(for magneto optical and electro optical spectra, see 3345; for fluorescence and phosphorescence spectra, see 3350; for photoelectron spectra, see 3365)
3320B	射频及微波谱(核磁共振谱见 3325; 电子顺磁共振谱见 3330)	radiofrequency and microwave spectra(for NMR spectra, see 3325; for EPR spectra, see 3330)
3320E	红外光谱	infrared spectra
3320F	喇曼及瑞利光谱(包括散射)	Raman and Rayleigh spectra(inc.scattering)
3320K	可见光谱	visible spectra
3320L	紫外光谱	ultraviolet spectra
3320N	真空紫外光谱	vacuum ultraviolet spectra
3320R	X 射线谱	X-ray spectra
3325	核磁共振及弛豫; 核四极共振(NQR)	nuclear magnetic resonance and relaxation; nuclear quadrupole resonance (NQR)
3325B	弛豫现象	relaxation phenomena
3325D	化学位移	chemical shifts
3325F	核自旋相互作用、四极效应及核耦合	nuclear spin interactions, quadrupole effects and nuclear coupling
3325H	化学感应动态核极化(CIDNP)	chemically induced dynamic nuclear polarization (CIDNP)
3325K	核四极共振(NQR)	nuclear quadrupole resonance (NQR)
3330	电子顺磁共振及弛豫	electron paramagnetic resonance and relaxation
3330B	弛豫现象	relaxation phenomena
3330H	化学感应动态电子极化(CIDEP)	chemically induced dynamic electron polarization (CIDEP)
3335	双共振及其它复共振	double resonances and other multiple resonances
3335D	动态核磁共振、电子核双共振、电子双共振、奥佛好塞、核间双共振、DNMR, ENDOR, ELDOR, Overhauser, INDOR, DNP	dynamic nuclear resonance, electron nuclear double resonance, electron double resonance, Overhauser effect, nuclear double resonance, DNMR, ENDOR, ELDOR, Overhauser effect, INDOR, DNP
3335H	微波光双极共振及磷光微波双共振(MODR 和 PMDR)	MODR and PMDR (microwave optical double resonance and phosphorescence microwave double resonance)
3340	穆斯堡尔谱	Mossbauer spectra

	磁光及电光效应;双折射,二向色性和旋光性	magneto-optical and electro-optical effects in molecules: birefringence, dichroism and optical activity
3345		
3345B	塞曼和斯塔克效应	Zeeman and Stark effects
3345C	磁圆二向色性	magnetic circular dichroism
3345D	二向色性	dichroism
	荧光、磷光;无辐射跃迁(系统间交叉、内转换)	fluorescence, phosphorescence; radiationless transitions (intersystem crossing, internal conversion)
3350		
3350D	荧光及磷光光谱	fluorescence and phosphorescence spectra
3350H	无辐射跃迁	radiationless transitions
3365	光电子谱	photoelectron spectra
3365C	紫外及真空紫外光电子谱	UV and VUV photoelectron spectra
3365F	X 射线光电子谱	X-ray photoelectron spectra
	分子谱线和谱带的强度及形状	intensities and shapes of molecular spectral lines and bands
3370		
	振子及谱带的强度,跃迁矩及弗兰克-康登因子	oscillator and band strengths, transition moments, Franck-Condon factors
3370C		
	寿命,绝对和相对谱线及谱带的强度	lifetimes, absolute and relative line and band intensities
3370F		
3370J	谱线及谱带的宽度、形状及位移	line and band widths, shapes, and shifts
	光子与分子的相互作用(包括俄歇效应、双折射、康普顿效应、旋光性)	photon interactions with molecules(inc. Auger effect, birefringence, Compton effect, optical activity)
3380		
3380B	能级交叉及光抽运	level crossing and optical pumping
	自电离、光致电离及光致分离	autoionization, photoionization, and photodetachment
3380E		
3380G	漫射光谱;预解离,光致离解	diffuse spectra; predissociation, photodissociation
3380K	多光子过程	multiphoton processes
3380P	分子的光学冷却;俘获	optical cooling of molecules;trapping
	分子光谱及分子与光子相互作用的其他论题	other topics in molecular spectra and interactions with photons
3390		
	原子和分子碰撞过程及相互作用	atomic and molecular collision processes and interactions
3400		
	一般理论与模型(包括统计理论、跃迁态、随机和轨道模型等)	general theories and models(inc. statistical theories, transition state, stochastic and trajectory models, etc)
3410		
	原子间势和分子间势与力(分子固体,见 3130N)	interatomic and intermolecular potentials and forces(for molecular solids, see 3130N)
3420		
	一般势能函数及中程力(3430 和 8220K 势能表面)	general potential functions and intermediate range forces(3430 and 8220K potential energy
3420B		

		surfaces)
3420F	长程力	Long-range forces
3420K	短程力	Short-range forces
3425	分子内能量转移,分子内动力学,van der Waals 分子动力学	Intramolecular energy transfer, intramolecular dynamics, dynamics of van der Waals molecules
3430	碰撞的势能表面(化学动力学中入 8220K;分子间力入 3420;束研究入 3450L)	potential energy surfaces for collisions(8220K in chemical kinetics, 3420 intermolecular forces, 3450L in beam studies)
3440	原子和分子的弹性散射	elastic scattering of atoms and molecules
3450	原子和分子的非弹性散射	inelastic scattering of atoms and molecules
3450B	能量损失和阻止功率(原子和分子)	energy loss and stopping power(atoms and molecules)
3450D	原子、分子、离子和表面的相互作用(参见 7920N 原子表面、分子表面、离子 表面的碰撞和相互作用)	interactions of atoms, molecules and ions with surfaces(see also 7920N atom-surface, molecule-surface, and ion-surface impact and interactions)
3450E	转动及振动能量转移	rotational and vibrational energy transfer
3450H	电子激发及电离(包括束箔激发及电离)	electronic excitation and ionization (inc.beam-foil excitation and ionization)
3450L	化学反应,能量配置,角分布(如同用原子束及分子束研究)3430 和 8220K 势能表 面 ;8240D 束反应)	chemical reactions, energy disposal, and angular distribution, as studied by atomic and molecular beams(3430 and 8220K potential energy surfaces, 8240D beam reactions)
3450R	激光修正原子和分子的非弹性散射	laser modified inelastic scattering of atoms and molecules
3470	电荷交换(8230 电荷交换反应)	Charge transfer (8230 charge transfer reaction)
3480	电子散射,电子谱	electron scattering, electron spectra
3480B	原子及分子产生的电子弹性散射	elastic scattering of electrons by atoms and molecules
3480D	原子及分子产生的原子激发及电离	atomic excitation and ionization by electron impact
3480G	分子产生的分子激发、电离及离解	molecular excitation, ionization, and dissociation by electron impact
3480L	电子-离子复合和电子吸附(原子和分子)	Electron-ion recombination and electron attachment(atoms and molecules)
3480Q	激光修正电子散射(原子和分子)	Laser-modified electron scattering (atoms and molecules)
3485	正电子散射, 正电子谱(原子和分子)	positron scattering,positron spectra(atoms and molecules)

		elastic scattering of positrons by atoms and molecules
3485B	原子和分子产生的正电子弹性散射	
		atomic excitation and ionization by positron impact
3485D	正电子碰撞产生的原子激发和电离	
	正电子碰撞产生的分子激发、电离	molecular excitation, ionization and dissociation
3485G	和离解	by positron impact
	正电子-离子复合和正电子吸附(原子和分子)	Positron-ion recombination and positron attachment(atoms and molecules)
3485L		
		Laser-modified positron scattering (atoms and molecules)
3485Q	激光修正电子散射(原子和分子)	
	原子与分子碰撞过程及相互作用的	other topics in atomic and molecular collision
3490	其它论题	processes and interactions
	原子和分子的特性;实验设备和技	properties of atoms and molecules ; instruments
3500	术	and techniques
3510	原子性质	atomic properties
	原子质量、质谱、丰度及同位素(包括同位素分离;质谱仪参见 0775;放射性同位素分离见 2842H 或 8255)	atomic masses, mass spectra, abundances, and isotopes(inc.isotope separation; for mass spectrometry, see also 0775; for radioisotope separation see 2842H or 8255)
3510B		
3510D	电矩和磁矩,极化率	electric and magnetic moments, polarizability
3510F	精细和超精细结构常数	Fine- and hyperfine-structure constants
3510H	电离势、电子亲合力	ionization potentials, electron affinities
3510W	弱相互作用	weak interactions
	分子性质(金属和合金,其它无机材料以及有机材料的具体结构分别见 6155、6160、6165)	molecules properties(6155, 6160, and 6165 specific structures of metals and alloys, of other inorganic materials, and of organic materials, respectively)
3520		
		general molecular conformation and symmetry; stereochemistry
3520B	一般分子构象及对称性;立体化学	
3520D	原子间距离和角度	interatomic distances and angles
		bond strengths, dissociation energies, hydrogen bonding, etc
3520G	键强,离解能,氢键等	
	势垒高度(内转动、反演);转动的同	barrier heights (internal rotation, inversion);
3520J	质异能性,构型动力学	rotational isomerism, conformational dynamics
	电矩和磁矩(及派生)、极化率和磁	electric and magnetic moments (and derivatives),
3520M	化率	polarizability, and magnetic susceptibility
	转动常数、振动常数及转动	rotation, vibration, and vibration
3520P	常数	constants
3520S	超精细和精细结构常数	hyperfine and fine structure constants
	电离势、电子亲合力、分子实结合	ionization potentials, electron affinities, molecular
3520V	能	core binding energy

3520W	弱相互作用	weak interactions
3520X	质谱	mass spectra
3520Y	分子动力学中相关时间	correlation times in molecular dynamics
3580	原子和分子测量及测量技术	atomic and molecular measurements and techniques
3580B	时间分辨的测量和技术(原子和分子)	time resolved measurements and techniques (atoms and molecules)
3600	具体原子和分子的研究	studies of special atoms and molecules
3610	奇特原子和分子(包括介子、 μ 子及其它反粒子)	Exotic atoms and molecules, (containing mesons, muons, and other abnormal particles)
3610D	电子偶素、 μ 介子素、 μ 原子和 μ 分子	positronium, muonium, muonic atoms and molecules
3610G	介原子和介分子,超原子和超分子	mesonic atoms and molecules, hyperonic atoms and molecules
3620	大分子和聚合物分子(生物大分子参见 8715;聚合物反应和聚合作用见 8235)	macromolecules and polymer molecules(for biological macromolecules, see also 8715; for polymer reactions and polymerization, see 8235)
3620C	构象(统计学和动力学)	conformation (statistics and dynamics)
3620E	结构(键和序列)	constitution (chains and sequences)
3620F	分子量	molecular weights
3620H	形态(键,维度)	configuration (bonds, dimensions)
3620K	电子结构和光谱	electronic structure and spectra
3640	原子团和分子团	atomic and molecular clusters
3640B	(原子和分子)团簇的几何结构	geometrical structure of clusters
3640C	(原子和分子)团簇的光谱和电子结构	spectra and electronic structure of clusters
3640J	(原子和分子)团簇的相互作用(碰撞和反作用)	interactions of clusters(collisions and reactions)
3690	其它具体的原子和分子	other special atoms and molecules
4000	唯象论的经典领域(包括应用)	CLASSICAL AREAS OF PHENOMENOLOGY (INC. APPLICATIONS)
4100	电学和磁学;场和带电粒子(0350 麦克斯韦理论的一般数学问题)	electricity and magnetism; fields and charged particles(0350 Maxwell theory' general mathematical aspects)
4110	经典电磁学	classical electromagnetism
4110D	静电学,静磁学	electrostatics, magnetostatics
4110F	稳态电磁场;电磁感应	Steady-state electromagnetic fields; electromagnetic induction
4110H	电磁波:理论	electromagnetic waves: theory
4170	电磁场中的粒子:经典方面(包括同步辐射)	particles in electromagnetic fields: classical aspects(inc.synchrotron radiation)

		particle beams and particle optics(0780 electron and ion microscopy; 0777 beam handling equipment)
4180	粒子束和粒子光学(0780 电子和离子显微术;0777 束处理设备)	
4180D	电子束和电子光学	electron beams and electron optics
4180G	离子束和离子光学	ion beams and ion optics
4190	电学和磁学的其它论题	other topics in electricity and magnetism
		optics(for properties of gases and of liquids and solids, see 5170 and 7800 respectively; for atmospheric optics, see 9265; for physiology of the eye, see 8732)
4200	的生理光学, 见 8732)	
4215	几何光学	geometrical optics
4215D	光波阵面和光线追迹	optical wave fronts and ray tracing
4215E	光学系统设计	optical system design
4225	物理光学	physical optics
4225B	光传播、透射和吸收	optical propagation,transmission and absorption
4225F	光衍射和散射	optical diffraction and scattering
4225G	边缘效应和边界效应; 光反射和折射	edge and boundary effects;optical reflection and refraction
	光干涉和散斑(包括莫阿干涉纹)莫阿干涉和散斑干涉量度学, 参见 0760L	optical interference and speckle(inc.Moire fringes)Moire and speckle interferometry,see also 0760L
4225H	0760L	
4225J	光偏振	optical polarization
4225K	光相干性	optical coherence
4225L	双折射(物理光学)(凝聚物质中的双折射, 见 7820F)	birefringence(physical optics)(birefringence in condensed mater,see 7820F)
4230	光学信息、成象与分析	optical information, image formation and analysis theory
4230D	理论	
4230F	象差	aberrations
4230H	分辨率	resolution
4230K	富里叶变换光学	Fourier transform optics
4230L	调制和光学传递函数	modulation and optical transfer functions
4230Q	光通信(4280S 光通信器件)	optical communications(4280S optical communication devices)
4230S	模式识别	pattern recognition
4230V	图象处理与复原	image processing and restoration
4240	全息术(声全息,见 4363)	holography(for acoustic holography, see 4363)
4240D	理论	theory
4240E	全息光学元件; 全息光栅	holographic optical elements;holographic gratings
4240F	图象特性	image characteristics

4240H	摄影与记录问题	photographic and recording problems
4240J	计算机制全息图	Computer-generated holography
4240K	全息仪器与技术	holographic instrumentation and techniques
4240M	应用	applications
4250	量子光学	quantum optics
	光力学效应(包括光辐射压力)(原子	mechanical effects of light(inc.light radiation
	光冷却, 参见 3280P; 分子光冷却, 3280P;for optical cooling of atoms,see also	pressure) for optical cooling of atoms,see also
	光冷却, 参见 3280P; 分子光冷却, 3280P;for optical cooling of molecules,see also	
4250V	参见 3380P)	3380P)
4252	脉塞,微波激光器	masers
4255	激光过程	lasing processes
4255B	激光作用一般理论	general theory of lasing action
4255D	二氧化碳激光器	CO ₂ lasers
4255F	惰性气体激光器	inert gas lasers
4255G	准分子激光器	excimer lasers
4255H	其它气体激光器的激光作用	lasing action in other gas lasers
	化学激光器(8240T 化学致发光和	chemical lasers(8240T chemiluminescence and
4255K	化学激光动力学)	chemical laser kinetics)
4255M	液体和有机染料激光器的激光作用	lasing action in liquids and organic dyes
4255N	光纤激光器和放大器	fibre laser and amplifiers
4255P	半导体结型激光器的激光作用	lasing action in semiconductors with junctions
	固体中激光活性缺陷中心(包括色	Laser-active defect centres in solids(inc.colour
4255Q	心)	centres)
	其它固体激光器的激光作用(包括	lasing action in other solids(inc.solid Raman
4255R	固体喇曼激光器)	lasers)
4255T	自由电子激光器	free electron lasers
	高能激光过程(例如 γ 和X射线激光	high energy lasing processes(e .g. gamma and
4255V	器)	X-ray lasers)
4260	激光器系统	laser systems
4260B	具体的激光器系统设计	design of specific laser systems
4260D	激光谐振器和激光腔	laser resonators and cavities
4260F	激光束调制	laser beam modulation
	与激光束特性和相互作用有关的光	optical problems related to properties and
4260H	学问题	interactions of laser beams
	与激光束应用有关的光学问题	optical problems related to applications of laser
4260K		beams
	激光应用(激光光谱学, 见 0765, laser applications(laser spectroscopy, see 0765,for	
4262	激光在医学方面的应用, 见 8760F)medical uses of lasers,see 8760F)	
	激光材料加工(参见 8100 材料科学)	laser materials processing(see also 8100 materials
4262A		science)

		metrological applications of lasers(inc.remote sensing)
4262E	激光在计量学中的应用(包括遥感)	
4265	非线性光学	nonlinear optics
4265B	一般理论	general theory
	受激喇曼散射,布里渊散射和瑞利	stimulated Ra man, Brillouin and Rayleigh
4265C	散射	scattering
4265F	相共轭	phase conjugation
	光子回波,自感应透明,光饱和及相	photon echoes, self-induced transparency, optical
4265G	关效应	saturation and related effects
	束束俘获,自聚焦,热晕及相关效应	beam trapping, self focusing, thermal blooming, and related effects
4265J	射束俘获,自聚焦,热晕及相关效应	
	光谐波产生,频率转换,参量振荡	optical harmonic generation ,frequency conversion,parametric oscillation and
4265K	和放大	amplification
4265M	多波混频	multiwave mixing
	光学双稳性,多稳性及其转换(光逻辑学,参见4280V)	optical bistability,multistability and switching(for optical logic,see also 4280V)
4265P	辑学,参见4280V)	
4265S	光孤子	optical solitons
	光学混沌及相关效应(包括光学时空动力学)	optical chaos and related effects(inc.optical spatio-temporal dynamics)
4265T	空动力学)	
4270	光学材料	optical materials
4270C	玻璃	glass
	液晶(光学材料)(液晶结构,见6130)	liquid crystals(optical materials)(for structure of liquid crystals,see 6130)
4270D	液晶(光学材料)(液晶结构,见6130)	
4270E	石英	quartz
4270G	光敏材料	Light-sensitive materials
	光学聚合物和其他有机光学材料	optical polymers and other organic optical
4270J	(液晶聚合物,见4270D)	materials(for liquid crystal polymers,see 4270D)
4270Q	光子带隙材料	photonic bandgap materials
4270Y	其他光学材料	other optical materials
	光源与标准(光谱光源,参见0765)	optical sources and standards(for spectroscopic light sources, see also 0765)
4272	光源与标准(光谱光源,参见0765)	
	光学透镜和反射镜系统(显微镜,见0760P;照相仪器,见0768;天文望远镜,见9555)	optical lens and mirror systems(for microscopes, see 0760P; for photographic instruments, see 0768; for astronomical telescopes, see 9555)
4278	镜,见9555)	
4278C	透镜和反射镜设计	lens and mirror design
	光学系统性能与试验(4285 光学试验技术)	performance and testing of optical systems(4285 optical testing techniques)
4278F	验技术)	
4278M	目镜、投影系统、棱镜系统	eyepieces, projection systems, prism systems

	光学器件,技术与应用(光学仪器和 技术,见 0760;光谱学,见 0765;摄影 术,见 076 8;全息术,见 4240;激光 器,见 4255 和 4260;微波激光器,脉 塞,见 4252)	optical devices, techniques and applications(for optical instruments and techniques, see 0760; for optical spectroscopy, see 0765; for photography, see 0768; for holography, see 4 240; for lasers, see 4255 and 4260; for masers, see 4252)
4280B	空间滤波器,波带片	spatial filters, zone plates
4280C	分光滤光器和其它滤光器	spectral and other filters
4280D	单色仪	monochromators
4280E	光闸,窗孔,光阑,偏转器,遮光器	shutters, windows, diaphragms, deflectors, choppers
4280F	光栅,阶梯光栅	gratings, echelles
4280G	棱镜	prisms
4280H	分束器	beam splitters
4280J	准直管和自动准直管	collimators and autocollimators
4280K	光束调制器	optical beam modulators
4280L	光学波导(纤维光波导,见 4281)	optical waveguides(for fibre optical waveguides, see 4281)
4280N	纹影器件	schlieren devices
4280P	测距仪	rangefinders
4280Q	图象探测器,转换器和增强器	image detectors, convertors, and intensifiers
4280R	折射率梯度器件(折射率梯度光纤 仪器和技术参见 4281H), (纤维光 学见 4281H)	Gradient-index(GRIN) devices(see also 4281H GRIN fibre devices and techniques),(for fibre optics,see 4281H)
4280S	光通信器件	optical communications devices
4280T	光存储和检索(包括光盘)	optical storage and retrieval(inc.optical discs)
4280V	光计算机,逻辑元件和互连(包括光 学神经网络)	optical computers, logic elements,and interconnects(inc.optical neural nets)
4280W	超快光学技术(凝聚物质中超快光 学测量参见 7847)	ultrafast optical techniques(see also 7847 ultrafast optical measurements in condensed matter)
4280X	光学涂层(包括抗反射涂层和光学 多层膜)(太阳能调节膜见 4280Y)	Optical coatings(inc.antireflection coatings and optical multilayers)(solar control films ,see 4280Y)
4280Y	太阳能集热器,集能器和调节膜(光 学方面的)	solar collectors,concentrators and control films:optical aspects
4281	纤维光学和纤维波导	fibre optics and fibre waveguides
4281B	光纤制造,镀层,绞接,连接(光学 加工 参见 4285D)	optical fibre fabrication, cladding, splicing, joining(see also 4285D optical fabrication)
4281C	光纤检测和光纤参数测量(光学检 测技术 参见 4285F)	optical fibre testing and measurement of fibre parameters(see also 4285F optical testing)

- techniques)
- optical propagation,dispersion and attenuation in
光在光纤中传播、色散和衰减(包括 fibres(inc.absorption,scattering and loss
4281D 光吸收、散射和损失机理) mechanisms)
- 光纤的其它光学性质(包括双折射 other fibre optical properties(inc.birefringence and
4281F 和偏振) polarization)
- 折射率梯度光纤器件和技术(折射 Gradient-index(GRIN) fibre devices and
4281H 率梯度器件 参见 4280R) techniques(see also 4280R GRIN devices)
- 4281M 光纤耦合器和连接器 fibre couplers and connectors
- 4281P 纤维光学传感器和光纤陀螺仪 fibre optic sensors;fibre gyros
- 其它纤维光学器件和技术(光纤激 other fibre optical devices and techniques(for
4281W 光器和放大器 见 4255N) fibre lasers and amplifiers,see 4255N)
- integrated optics(for optical waveguides see also
4282 集成光学(光学波导,参见 4280L) 4280L)
- Micro-optical devices and technology
显微光学器件和工艺(包括显微光 (inc.micro-optomechanical and
4283 机械系统和显微光电机械系统) micro-opto-electro-mechanical systems)
- 4285 光学试验与加工技术 optical testing and workshop techniques
- 4285D 表面研磨,表面抛光 surface grinding, fabrication
- 4285F 光学检测技术 optical testing techniques
- 4290 其它光学论题 other topics in optics
- acoustics(for audition, see 8734; for speech, see
声学(听觉,见 8734;语言,见 8736;声 8736; for sound effects on living matter, see
4300 对生命物质的作用,见 8750C) 8750C)
- 一般线性声学(0340K 波和波传播 general linear acoustics(0340K mathematical
4320 中的数学问题) problems in waves and wave propagation)
- 非线性声学 and 强声学(4360 声信号 nonlinear acoustics and macrosonics(4360
处理;4380 换能器;发声器件和声重 acoustic signal processing; 4388 transduction;
4325 放器件) devices for generation and production of sound)
- aeroacoustics and atmospheric sound(9260
4328 航空声学 and 大气声学(9260 气象学) meteorology)
- 4330 水声学(9210 海洋物理学) underwater sound(9210 physics of the ocean)

- ultrasonics, quantum acoustics, and physical effects of sound(for phonons in crystal lattices, see 6300; for plasma acoustics, see 5235; for low-temperature acoustics and sound in liquid
- 超声学, 量子声学和声的物理效应helium, see 6700; for acoustic properties of (晶格中的声子, 见 6300; 等离子体liquids, see 6260; for acoustical properties of 声学, 见 5235;低温声学和液氦中solids, see 6265; f or ultrasonic relaxation, see 声学, 见 6700; 液体声学性质, 见6280; for acoustic properties of thin films, see 6 6260;固体声学性质, 见 6265;超声860; for surface waves in solids, see 6825; for 弛豫, 见 6280;薄膜声学性质, 见acoustoelectric effects and acoustic wave 6860;固体中的表面波, 见 6825;声amplification, see 7250; for magnetoacoustic 电效应和声波放大, 见 7250;磁声effects, oscillations and resonance, see 7255; for 效应, 振荡和共振, 见 7255;声光效acousto-optical effects and acoustic holography, 应和声全息术, 见 7820H 和 4363;see 7820H and 4363; for sound effects on living
- 4335 声音对生命 物质作用, 见 8750) matter, see 8750)
- 4337 声发射(包括辐射声学) acoustic emission(inc.radiation acoustics)
- 4337D 热声学 thermoacoustics
- 光声学(凝聚物质中的光声效应, 参photoacoustics(for photo acoustic effect in 4337G 见 7820H) condensed matter,see also 7820H)
- 机械振动和冲击(4630M 振动,气动vibrations, aeroelasticity, hydroelasticity, 4340 弹性,流体弹性,机械波和冲击波) mechanical waves and shocks)
- 声学响应的统计研究(4355 建筑声statistical studies of acoustical response(4355 4345 学) architectural acoustics)
- 噪声及其影响与控制(8670J 环境科noise, its effects and control(8670J environmental 4350 学) science)
- 4355 建筑声学 architectural acoustics
- 4360 声信号处理 acoustic signal processing
- 4363 声全息术 acoustic holography
- 语言通信(包括语言的感知,可懂度speech intelligibility, and speech synthesis;8736 4370 和合成;8736 语言) speech)
- 4370C 人类语言通信 human speech communication
- 4370F 机器语言通信 Machine-based speech communication
- 4375 音乐和乐器 music and musical instruments
- acoustical measurements and instrumentation(for 声学测量和仪器(声噪声测量,参见 acoustic noise measurement, see also 4350; for 4385 4350;光声光谱学,见 0765) photoacoustic spectroscopy, see 0765)
- 4385D 声学变量测量 measurement of acoustic variables
- 4385G 利用声学技术测量 measurement by acoustic techniques
- transduction; devices for the generation and 4388 换能;发声器件和声重放器件 reproduction of sound

4390	声学其它论题	other topics in acoustics
		heat flow, thermal and thermodynamic processes
	热流、热和热力学过程(输运过程理论)和热力学,见 0500;流体中传热,见 4725Q;凝聚物质的热和热力学过程,6500)	(for theory of transport processes and thermodynamics, see 0500; for heat transfer in flows, see 4725Q; for thermal and thermodynamic properties of condensed matter, see 6500)
4400		heat conduction (models, phenomenological description)
4410	热传导(模型,唯象描述)	convection(4725Q convection and heat transfer in flows)
4425	对流(4725Q 流体中的对流和传热)	heat transfer in inhomogeneous media and through interfaces
4430	非均匀介质中的传热和界面传热	heat radiation
4440	热辐射	Thermal properties of matter (phenomenology)
4450	物质的热学性质(唯象论)(0720 热仪器和技术)	(0720 thermal instruments and techniques)
		thermodynamic processes (phenomenology)(0570 thermodynamics, 0720 thermal instruments and techniques)
4460	热力学过程(唯象论)(0570 热力学;0720 热仪器和技术)	other topics in heat flow, thermal and thermodynamic processes
4490	热流,热和热力学过程的其它论题	mechanics, elasticity, rheology
4600	力学、弹性学、流变学	mechanics of discrete systems(0320 general mathematical aspects)
4610	离散系统力学(0320 一般数学问题)	continuum mechanics(0340 general mathematical aspects)
4620	连续介质力学(0340 一般数学问题)	mechanics of solids(6220 mechanical properties of solids, as related to microscopic structure)
4630	固体力学(6220 与微观结构有关的固体力学性质)	elasticity
4630C	弹性	viscoelasticity, plasticity, viscoplasticity, creep, and stress relaxation(inc.rheology of solids)
4630J	粘弹性,塑性,粘塑性,蠕变和应力弛豫(包括固体流变学)	buckling and instability
4630L	屈曲和失稳	vibrations, aeroelasticity, hydroelasticity, mechanical waves, and shocks(4340 mechanical vibrations and shock)
4630M	振动、气动弹性、流体弹性、机械波与冲击波(4340 机械振动和冲击)	fracture mechanics, fatigue and cracks
4630N	断裂力学,疲劳和裂纹	friction, wear, adherence, hardness, mechanical contacts
4630P	摩擦,磨损,粘附,硬度,机械接触	measurement methods and techniques(0710 mechanical instruments and techniques; 8170 materials testing)
4630R	测量方法与技术(0710 机械仪器和技术;8170 材料试验)	

		rheology of fluids and pastes(4750
	流体与膏体流变学(4750 非牛顿动	non-Newtonian dynamics; 6620 diffusive
4660	力学;6220 扩散动量运输)	momentum transport)
4660B	粘弹性	viscoelasticity
4660D	非线性	nonlinearities
4660F	触变性,摇溶性	rheopexy, thixotropy
	电流变液和磁流变液(磁流体动力	electrorheological and magnetorheological
	学和电流体动力学 见 4765; 智能	fluids(see also 4765 magnetohydrodynamics and
4660H	材料 见 81 85)	electro-hydrodynamics,8185 intelligent materials)
4690	力学、弹性学和流变学的其它论题	other topics in mechanics, elasticity, and rheology
	流体动力学(量子流体动力学,见	fluid dynamics (for fluid dynamics of quantum
	6700;地球物理流体动力学,见 9210;	fluids, see 6700; for geophysical fluid dynamics,
	天体 物理气 体动力学,见 9530;生	see 9210; for astrophysical gas dynamics, see
4700	物流体动力学,见 8745)	9530; for biological fluid dynamics, see 8745)
	流体动力学一般理论,模拟和其他	general fluid dynamics theory, simulation and
	其他计算方法(0340G 数学问题)	other computational methods(0340G
4710	计算模型(0340G 数学问题)	mathematical aspects)
4715	层流(包括库埃特流)	laminar flows(inc.Couette flow)
4715C	层流边界层	laminar boundary layers
4715F	层流稳定性	stability of laminar flows
4720	流体动力学稳定性和不稳定性	hydrodynamic stability and instability
4725	湍流,对流和传热	turbulent flows, convection, and heat transfer
4725C	各向同性湍流	isotropic turbulence
4725F	边界层和剪切湍流	boundary layer and shear turbulence
4725J	湍流扩散	turbulent diffusion
4725M	噪声(湍流产生的噪声)	noise (turbulence generated)
	对流和传热(4425 对流和约束传热	convection and heat transfer(4425 convective and
4725Q	对流和传热(4425 对流和约束传热	constrained heat transfer)
4725R	尾流	wakes
	旋流、旋涡、浮力和其他包括体力	rotational flow, vortices, buoyancy and other
4730	的流动	flows involving body forces
4735	波	waves
	可压流动、激波和爆震现象(2870	compressible flows; shock and detonation
	核爆炸;5235T 等离子体激波)	phenomena(2870 nuclear explosions; 5235T
4740	核爆炸;5235T 等离子体激波)	plasma shock waves)
4740D	一般亚声速流	general subsonic flows
4740H	跨声速流	transonic flows
4740K	超声速流和高超声速流	supersonic and hypersonic flows
4740N	激波相互作用	Shock-wave interactions
	稀薄气体动力学(0730 真空产生与	rarefied gas dynamics(0730 vacuum production
4745	技术)	and techniques)

4745D	自由分子流	free molecular flows
4745G	滑移流	slip flows
4745N	调节	accommodation
4750	非牛顿动力学	Non-Newtonian dynamics
4752	流体流动中的混沌和分形(包括分岔)	chaos and fractals in flow(inc.bifurcations)
4754	流型选择	pattern selection in flow
4755	非均匀流	nonhomogeneous flows
4755B	气穴	cavitation
4755C	射流	jets
4755E	喷嘴,喷管	nozzles
4755H	分层流	stratified flows
4755K	多相流(包括流体相变)	multiphase flows(inc.phase transitions in flow)
4755M	通过多孔介质的流动,渗流	flow through porous media
4760	管流、通道流(包括泊肃叶流和毛细管流;生物流体动力学,见 8745)	flows in ducts, channels, and conduits(inc.Poiseuille and capillary flow;for biological fluid dynamics, see 8745)
4762	流控	flow control
4765	磁流体动力学和电流体动力学(等离子体磁流体动力学,见 5230)	magnetohydrodynamics and electrohydrodynamics(for MHD in plasma, see 5230)
4770	反应流、辐射流或非平衡流	reactive, radiative, or nonequilibrium flows
4770F	化学反应流	chemically reactive flows
4770M	辐射气体动力学	radiation gas dynamics
4775	相对论流体动力学	relativistic fluid dynamics
4780	流体动力学仪器(包括流动显形)	instrumentation for fluid dynamics(inc.flow visualisation)
4785	应用流体力学	Applied fluid mechanics
4790	流体力学其它论题	other topics in fluid dynamics
5000	流体、等离子体和放电(流体力学,见 4700;凝聚物质物理学,见 6000 和 70 00)	FLUIDS, PLASMAS AND ELECTRIC DISCHARGES (for fluid dynamics,see 4700;for the physics of condensed matter,see 6000 and 7000)
5100	流体动力学与输运理论;气体的物理性质	kinetic and transport theory of fluids; physical properties of gases
5110	动力学与输运理论	kinetic and transport theory
5120	粘滯性和扩散:实验	viscosity and diffusion: experimental
5130	气体的热学性质	thermal properties of gases
5140	气体的声学性质;超声弛豫(4335 超声学;液体的声学性质,见 6260;液体中超声弛豫,见 6280)	acoustical properties of gases; ultrasonic relaxation(4335 ultrasonics; for acoustic properties of liquids, see 6260; for ultrasonic

relaxation in liquids, see 6280)

- 5150 气体中的电现象(5200 等离子体和放电) electrical phenomena in gases(5200 plasma and electric discharges)
- 5160 气体中的磁现象(液体中的磁现象, 见 7500) magnetic phenomena in gases (for liquids, see 7500)
- 5170 气体中的光现象(液体中的光现象, 见 7800) optical phenomena in gases(for liquids, see 7800)
- 5190 流体物理学其它论题 other topics in the physics of fluids
- 5200 等离子体物理学与放电(聚变反应堆, 见 2852; 固态等离子体, 见 7230) fusion reactors, see 2852; for solid state plasma, see 7230
- 5220 等离子体中的基本过程 elementary processes in plasma
- 5220D 单粒子轨道 Single-particle orbits
- 5220F 电子碰撞 electron collisions
- 5220H 原子,分子,重粒子碰撞 atomic, molecular, heavy-particle collisions
- 5225 等离子体的基本性质 plasma basic properties
- 5225D 等离子体动力方程 plasma kinetic equations
- 5225F 输运性质 transport properties
- 5225G 涨落现象 fluctuation phenomena
- 5225K 等离子体热力学 thermodynamics of plasmas
- 5225L 温度与密度 temperature and density
- 5225M 电介质性质 dielectric properties
- 5225P 辐射的发射,吸收和散射 emission, absorption, and scattering of radiation
- 5225V 等离子体中杂质 impurities in plasma
- 5225W 非中性等离子体 nonneutral plasmas
- 5225Z 粉尘等离子体和等离子体晶体 dusty plasmas and plasma crystals
- 5230 等离子体流;磁流体动力学(4765 流体动力学) plasma flow; magnetohydrodynamics(4765 fluid dynamics)
- 5235 等离子体中的波,振荡和不稳定性 waves, oscillations, and instabilities in plasma
- 5235B 磁流体动力波 magnetohydrodynamic waves
- 5235D 声波 sound waves
- 5235F 静电波和振荡 electrostatic waves and oscillations
- 5235H 电磁波 electromagnetic waves
- 5235K 漂移波 drift waves
- 5235M 非线性波和非线性相互作用 nonlinear waves and nonlinear interactions
- 5235P 等离子体的不稳定性 plasma instabilities
- 5235R 等离子体湍流 plasma turbulence

5235S	等离子体孤子	plasma solitons
5235T	激波	shock waves
5240	等离子体相互作用	plasma interactions
5240D	等离子体中的电磁波传播	electromagnetic wave propagation in plasma
5240F	等离子体天线;等离子体波导	antennas in plasma; plasma-filled wave guides
5240H	固体-等离子体相互作用	Solid-plasma interactions
5240K	等离子体鞘	sheaths
	等离子体中的粒子束相互作用(激光束传播,见 5240D;激光束产生和	particle beam interactions in plasma(for laser beam propagation, see 5240D; for laser beam
5240M	等离子体加热,见 5250J)	production and heating of plasma, see 5250J)
5250	等离子体产生和加热	plasma production and heating
5250D	等离子体源(5280 放电)	plasma sources(5280 electric discharges)
5250G	等离子体加热	plasma heating
5250J	激光束产生与加热等离子体	plasma production and heating by laser beams
	激波和导线爆炸产生和加热等离子体	plasma production and heating by shock wave and wire explosion
5250L	体	
5255	等离子体平衡与约束	plasma equilibrium and confinement
5255D	一般理论	general theory
5255E	箍缩效应和箍缩机	pinch effect and pinch machines
	环形等离子体(仿星器、托卡马克等)	plasma in torus (stellarator, Tokamak, etc.)
	磁俘获器(例如天体器、螺旋器、磁	magnetic traps (e.g., astron, helitron, mirror, cusp, etc)
5255K	镜、会切等)	
	非磁约束系统(如静电约束、惯性约	nonmagnetic confinement systems (e.g. electrostatic, inertial and high frequency
5255M	束和高频约束)	confinement, etc.)
	聚变反应堆约束(2852 聚变反应堆)	confinement in fusion reactors(28 52 fusion reactors)
5260	相对论性等离子体	relativistic plasma
5265	等离子体模拟	plasma simulation
5270	等离子体诊断技术与仪器	plasma diagnostic techniques and instrumentation
5270D	电诊断和磁诊断技术、探针	electric and magnetic techniques, probes
5270G	射频诊断与微波诊断技术	radiofrequency and microwave techniques
5270K	光学诊断技术	optical techniques
	X射线和 γ 射线等离子体诊断技术	X-ray and gamma-ray plasma diagnostic techniques
5270L	粒子诊断技术	particle techniques

- 等离子体器件与应用(2852 聚变堆;8630L 电气体动力转换、磁流体动力转换;离子源、粒子源和靶,见 2925)
- 5275 等离子体器件与应用(2852 聚变堆;8630L 电气体动力转换、磁流体动力转换;离子源、粒子源和靶,见 2925)
- 5275D 加速器和推进器
- 5275F 磁流体发电机和热离子转换器
- 5275H 等离子体炬
- 5275K 等离子开关,整流子
- 5275P 等离子体二极管
- 等离子体在材料制造和加工中的应用(等离子体化学汽相淀积 参见 8115H; 等离子体电弧喷镀 参见 8115R)
- 5275R 等离子体在材料制造和加工中的应用(等离子体化学汽相淀积 参见 8115H; 等离子体电弧喷镀 参见 8115R)
- 5280 放电(5150 气体中的电现象)
- 电导率与放电(低场放电和汤森德放电)
- 5280D 电导率与放电(低场放电和汤森德放电)
- 5280H 辉光放电和电晕放电
- 5280M 电弧放电和火花放电
- 5280P 高频放电
- 5280Q 爆炸
- 5280S 磁激放电和彭宁放电
- 5280V 真空放电
- 5280W 液体放电和液体电击穿
- 5280Y 光谱源的放电方法
- 5290 等离子体物理学和放电的其它论题
- CONDENSED MATTER: STRUCTURE, THERMAL AND MECHANICAL PROPERTIES**
- 6000 凝聚物质:结构、热学和力学性质** structure of liquids and solids; 液体和固体结构;晶体学(6820 固体表面结构;7100 电子态)
- 6100** X 射线测定结构(6180 辐射损伤和 其它辐射效应;具体结构测定,见 6155~6180)
- 6110 X 射线测定结构(6180 辐射损伤和 其它辐射效应;具体结构测定,见 6155~6180)
- 6110D 衍射和散射理论 theories of diffraction and scattering

		experimental techniques(inc.apparatus, techniques
	实验技术(包括分析实验设备,技术	and calculation methods for analyzing
	和计算方法;0785 X 射线、 γ 射线仪	experimental results:0785 X-ray, gamma-ray
6110F	器和技术)	instruments and techniques)
		crystal structure solution and refinement
6110M	X 射线晶体结构测定及精确化技术	techniques using X-rays
	中子测定结构(具体结构测定,见	neutron determination of structures(for specific
6112	6155~6180)	determinations, see 6155 to 6180)
6112B	中子衍射和散射理论	theories of neutron diffraction and scattering
6112D	中子的弹性衍射和散射	elastic neutron diffraction and scattering
		neutron scattering techniques(inc.small-angle
6112E	中子散射技术(包括小角散射)	scattering)
6112F	中子的非弹性衍射和散射	inelastic neutron diffraction and scattering
		neutron diffraction techniques
	中子衍射技术(例如,粉末法,单晶	(e.g.powder,single-crystal,energy dispersive,and
6112G	法,能散和脉冲中子源法)	pulsed neutron source methods)
	电子测定结构(具体结构测定,见	electron determination of structures(for specific
6114	6155~6180)	determinations, see 6155 to 6180)
6114D	衍射和散射理论	theories of diffraction and scattering
6114F	衍射和散射实验	experimental diffraction and scattering
		Low-energy electron diffraction (LEED) and
	低能电子衍射和反射,高能电子衍	reflection, high-energy electron diffraction
6114H	射	(RHEEL)
	其它电子衍射和散射技术(例如,电	other electron diffraction and scattering
6114R	子碰撞解吸技术和自旋极化电子技	techniques(e.gelectron impact desorption and
	术)	spin-polaised electron techniques)
	结构测定的其它方法(具体结构测	other determination of structures(for specific
6116	定,见 6155~6180)	determinations, see 6155 to 6180)
6116D	电子显微术测定	electron microscopy determinations
6116F	场离子显微术测定	Field-ion microscopy determinations
6116N	电子顺磁共振和核磁共振测定	EPR and NMR determinations
	扫描探针显微术测定(包括原子力	scanning probe microscopy determinations of
	显微术,磁力显微术和其它扫描隧	structures(inc.atomic force,magnetic force,and
6116P	道显微术)	other scanning tunnelling microscopies)
	液体结构的经典理论、半经典理论	classical, semiclassical, and quantum theories of
	以及量子论(动力学理论,输运理论,	liquid structure(for kinetic and transport theory,
	见 511 0; 电子态,见 7100;液氦,见	see 5110; for electronic states, see 7100; for liquid
6120	6700)	helium, see 6700)
6120G	液体结构的统计理论	statistical theories of liquid structure
		computer simulation of static and dynamic
6120J	静态和动态特性的计算机模拟	behaviour

6120L	时间相关性	Time-dependent properties
6120N	单纯液体结构	structure of simple liquids
6120Q	缔合液体结构	structure of associated liquids
6125	具体液体结构研究(6140 非晶材料和聚合材料)	studies of specific liquid structures(6140 amorphous and polymeric materials)
6125B	液态惰性气体	liquid noble gases
6125E	分子液体	molecular liquids
6125H	大分子溶液和聚合物溶液(溶解度, 膨胀等); 聚合物熔体	macromolecular and polymer solutions (solubility, swelling, etc.); polymer melts
6125K	熔盐	molten salts
6125M	液态金属和液态合金	liquid metals and liquid alloys
6130	液晶(6470M 液晶相变)	liquid crystals(6470M transitions in liquid crystals)
6130B	液晶分子理论(包括统计力学理论)	molecular theories of liquid crystals(inc. statistical mechanical theories)
6130C	液晶的显微结构理论(连续介质、集团说)	microstructure theory of liquid crystals (continuum, swarm theories)
6130E	脂状、丝状、胆甾型以及感胶离子结构的实验测定	experimental determinations of smectic, nematic, cholesteric, and lyotropic structures
6130G	电磁场中液晶的取向有序	orientational order of liquid crystals in electric and magnetic fields
6130J	液晶缺陷	defects in liquid crystals
6140	非晶材料和聚合材料(6470P 玻璃相变; 8120P~81.20T 和 8160 材料科学)	amorphous and polymeric materials(6470P glass transitions; 8120P to 8120T, and 8160 materials science)
6140D	玻璃	glasses
6140G	粉末和多孔材料的结构	Structure of powders and porous materials
6140K	聚合物、弹性体和塑料	polymers, elastomers, and plastics
6140M	准晶体结构	structure of quasicrystals
6146	固体团簇结构、纳米粒子、纳米管和纳米结构材料(原子和分子团见 3640; 富勒烯和碳纳米管 见 6148)	structure of solid clusters, nanoparticles, nanotubes and nanostructured materials(for atomic and molecular clusters, see 3640; for fullerenes and carbon nanotubes, see 6148)
6148	富勒烯和富勒烯相关材料结构(包括碳纳米管的结构)	structure of fullerenes and fullerene-related materials(inc. carbon nanotubes)
6150	晶态(包括固体中分子运动; 磁结构和自旋体系, 见 7525)	crystalline state(inc. molecular motions in solids; for magnetic structure and spin systems, see 7525)
6150C	晶体生长物理学(晶体生长和薄膜淀积技术, 见 8110 和 8115; 外延、薄膜, 见 685 5; 晶须, 见 6870)	physics of crystal growth(for techniques of crystal growth and film deposition, see 8110 and 8115; for epitaxy, thin films, see 6855; for whiskers, see

	晶体对称:模型和空间群、晶系和晶类	crystal symmetry; models and space groups, and crystalline systems and classes
6150E		
6150J	晶体形态学和晶体取向	crystal morphology and orientation
	多晶形转变和有序-无序转变中的	crystallographic aspects of polymorphic and
6150K	晶体学问题	order-disorder transformations
6150L	晶体键联	crystal binding
6155	元素和合金的具体结构	specific structure of elements and alloys
6155D	非金属元素	nonmetallic elements
6155F	金属元素	metallic elements
6155H	合金	alloys
6160	无机化合物的具体结构	specific structure of inorganic compounds
6165	有机化合物的具体结构	specific structure of organic compounds
	晶体缺陷(6180 辐照损伤;6200 力学和声学性质;7155 杂质和缺陷能级;7630M 色心和其它缺陷的电学顺磁共振;7850 固体杂质和缺陷吸收;8140 材料处理)	defects in crystals(6180 radiation damage, 6200 mechanical and acoustic properties, 7155 impurity and defect levels; 7630M EPR of colour centres and other defects; 7850 impurity and defect absorption in solids; 8140 treatment of materials)
6170		
6170A	退火过程	Annealing processes
6170B	填隙子和空位(色心除外)	Interstitials and vacancies
6170D	色心	colour centres
6170E	其它点缺陷	other point defects
6170G	位错:理论	dislocations: theory
	位错的侵蚀斑、缀饰、透射电子显微术及位错的其它直接观测方法	etch pits, decoration, transmission electron microscopy and other direct observations of dislocations
6170J		slip, creep, internal friction and other indirect evidence of dislocations(6220H creep; 6240 internal friction)
6170L	位错的滑移、蠕变、内耗以及其它间接证据(6220H 蠕变;6240 内耗)	
6170N	晶界和孪晶晶界	grain and twin boundaries
	堆垛层错、四面体堆垛层错和其它面缺陷或扩展缺陷	stacking faults, stacking fault tetrahedra and other planar or extended defects
6170P		
6170Q	夹杂物和空隙(包括气泡)	inclusions and voids(inc.bubbles)
	晶体杂质:一般问题(7155 杂质和缺陷能级;8110 提纯技术)	crystal impurities: general(7155 impurity and defect levels; 8110 purification techniques)
6170R		doping and implantation of impurities(6630J
	杂质的掺入和注入(6630J 杂质的扩散,徙动和位移)	diffusion, migration, and displacement of impurities)
6170T		

		impurity concentration, distribution, and
6170W	杂质的浓度,分布和梯度(6630J 杂质的扩散,徙动和置换)	gradients(6630J diffusion, migration and displacement of impurities)
6170Y	不同晶体结构缺陷间的相互作用	interaction between different crystal structure defects
6180	辐射损伤和其它辐照效应(结构测定技术,见 6110~6116;电子及离子碰撞现象,见 7920)	radiation damage and other irradiation effects(for techniques of structure determination, see 6110 to 6116; for electron and ion impact phenomena, see 7920)
6180B	激光束	laser beams
6180C	X 射线	X-rays
6180E	γ 射线	gamma rays
6180F	电子和正电子	electrons and positrons
6180H	中子	neutrons
6180J	离子束效应(离子注入,见 6170T)	ion beam effects(for ion implantation, see 6170T)
6180L	原子和分子	atoms and molecules
6180M	粒子的沟道效应,阻塞效应和能量损失(2970 能量损失与射程的关系)	channelling, blocking and energy loss of particles(2970 energy loss and range relations)
6185	固体结构建模和计算机模拟	modelling and computer simulation of solid structure
6190	液体和固体结构的其它论题	other topics in structure of liquids and solids
6200	凝聚物质的力学和声学性质(4630 固体力学和流变学; 6170 晶体缺陷; 6825 表面和界面; 8100 材料科学; 热机械效应, 见 6570; 磁机械效应, 见 7580; 压电效应, 见 7760; 弹光效应, 见 7820H)	mechanical and acoustic properties of condensed matter(4630 mechanics of solids and rheology; 6170 defects in crystals; 6825 surfaces and interfaces; 8100 materials science; for thermomechanical effects; see 6570; for magneto-mechanical effects, see 7580; for piezoelectric effects, see 7760; for elasto-optical effects, see 7820H)
6210	液体的力学性质(液体的粘滞性,见 6620)	mechanical properties of liquids(for viscosity of liquids, see 6620)
6220	固体的力学性质(与微观结构有关)(8140 材料处理及其对微观结构和性质的影响; 8170 材料试验)	mechanical properties of solids (related to microscopic structure)(8140 treatment of materials and its effects on microstructures and properties, 8170 materials testing)
6220D	弹性常数(0340D 弹性力学数学理论; 8140J 弹性和滞弹性)	elastic constants(0340D mathematical theory of elasticity, 8140J elasticity and anelasticity)
6220F	变形和塑性(包括屈服、延性和超塑性)(8140L 形变、塑性和蠕变)	deformation and plasticity(include yield, ductility and superplasticity)(8140L deformation, plasticity and creep)

6220H	蠕变(8140L 形变、塑性和蠕变)	creep(8140L deformation, plasticity and creep)
	疲劳、脆性、断裂和裂纹(包括硬	fatigue, brittleness, fracture and cracks
6220M	度)(8140N 疲劳、脆变和断裂)	(inc.hardness) (8140N fatigue, embrittlement and fracture)
6220P	摩擦学(8140P 摩擦、润滑和磨损)	Tribology (8140P friction, lubrication and wear)
		mechanical and elastic waves(0340K
6230	机械波和弹性波(0340K 数学问题)	mathematical aspects)
	滞弹性、内耗和机械共振(8140J 弹	anelasticity, internal friction and mechanical
6240	性和滞弹性)	resonances (8140J elasticity and anelasticity)
6250	固体中的高压和冲击波效应	High-pressure and shock-wave effects in solids
		acoustic properties of liquids(6280 ultrasonic
	液体的声学性质(6280 超声弛豫;声	relaxation;for sound propagation, see 4300; for
	的传播,见 4300;量子流体中的第二	second sound in quantum fluids, see 6740, 6750
6260	声,见 674 0, 6750 和 6760)	and 6760)
		acoustic properties of solids (6280 ultrasonic
		relaxation;for sound propagation, see 4300; for
	固体的声学性质(6280 超声弛豫;声	lattice dynamic s and phonons, see 6300; for
	的传播,见 4300;点阵动力学和声子,	magnetoacoustic effects, see 7255; for
	见 6300;磁 声效应,见 7255;声电	acoustoelectric effects, see 7250; for
6265	效应,见 7250;声光效应,见 7820H)	acousto-optical effects, see 7820H)
	超声弛豫(7430G 超导体中的超声	ultrasonic relaxation(7430G ultrasonic attenuation
6280	衰减;4335 超声学)	in superconductors; 4335 ultrasonics)
	凝聚物质的力学和声学性质的其它	other topics in mechanical and acoustical
6290	论题	properties of condensed matter
		lattice dynamics and crystal statistics(0550 lattice
	点阵动力学和晶体统计学(0550 点	theory, 6500;thermal properties, 6670 thermal
	阵理论 ;6500 热性质 ;6670 热传	conduction, 6830 dynamics of surface and
	导 ;6830 表 面和界 面振动动力	interface vibrations, 7830 infrared and Raman
6300	学;7830 红外和喇曼光谱)	spectra)
6310	一般理论	general theory
6320	晶体点阵中的声子和振动	phonons and vibrations in crystal lattices
	声子态和声子能带,简正模式,声子	phonon states and bands, normal modes, and
6320D	色散	phonon dispersion
6320H	声子-声子相互作用	Phonon-phonon interactions
6320K	声子-电子相互作用	Phonon-electron interactions
6320L	声子和准粒子的相互作用	phonon interactions with quasi-particles
6320M	声子-缺陷相互作用	Phonon-defect interactions
6320P	局域模	localized modes
6320R	非谐振晶格模态	anharmonic lattice modes

		phonons in low dimensional structures and
	低维结构和微粒中的声子(包括超	small particles(inc.superlattices and quantum
6322	点阵、量子点、量子线、量子阱)	dots,wells and wires)
6350	无序体系中的振动态	vibrational states in disordered systems
		statistical mechanics of lattice vibrations(6500
	晶格振动的统计力学(6500 凝聚物	thermal properties of condensed matter; 6670
6370	质的热性质;6670 热传导)	thermal conduction)
		statistical mechanics of displacive phase
	位移相变的统计力学(模型系统有	transitions(for order-disorder and statistical
	序 无序转变和统计力学,见 6460;	mechanics of model systems, see 6460; for
	多形性转变和有序-无序转变的晶	crystallographic aspects of polymorphic and
6375	体学问题,见 6150K)	order-disorder transformations, see 6150K)
	点阵动力学和晶体统计学的其它论	other topics in lattice dynamics and crystal
6390	题	statistics
	状态方程、相平衡和相变(8260 化	equations of state, phase equilibria and phase
6400	学热力学)	transitions(8260 chemical thermodynamics)
		general theory of equations of state and phase
6410	状态方程和相平衡的一般理论	equilibria
		equations of state of specific sub stances(6570
6430	具体物质的状态方程(6570 热膨胀)	thermal expansion)
		general studies of phase transitions(for critical
	相变的一般研究(量子流体、超导	phenomena in quantum fluids, superconductors,
	体、磁性材料及铁电体的临界现象,	magnetic materials and ferroelectrics, see 6700,
6460	参见 6700 、 7440、7540 及 7780)	7440, 7540 and 7780)
		renormalization group, fractal and percolation
6460A	相变的重正化群,分形和渗流研究	studies of phase transitions
	模型系统的有序-无序转变和统计	Order-disorder and statistical mechanics of model
6460C	力学	systems
		equilibrium properties near critical points, critical
6460F	临界点和临界指数附近的平衡性质	exponents
6460H	动态临界现象	dynamic critical phenomena
6460K	多临界点	multicritical points
6460M	亚稳相	metastable phases
6460Q	成核	nucleation
		phase equilibria, phase transitions, and critical
	相平衡、相变和临界点(8130 固化	points(8130 phase diagrams and microstructures
	和固-固相变产生的相图和微观结	developed by solidification and solid-solid phase
6470	构)	transformations)
6470D	固-液相变(8130F 固化)	Solid-liquid transitions(8130F solidification)
6470F	液-汽相变	Liquid-vapour transitions

6470H	固-汽相变	Solid-vapour transitions
6470J	液-液相变	Liquid-liquid transitions
	固相-固相转变(6150K 多形性转变和有序-无序转变晶体学;8130H、8130K、8130M 固-固相变产生的	Solid-solid transitions(6150K crystallographic aspects of polymorphic and order-disorder transformations; 8130H, 8130K, 8130M microstructures developed by solid-solid phase transformations)
6470K	微观结构)	
6470M	液晶相变	transitions in liquid crystals
6470P	琉态转变	glass transitions
6470R	有公度-无公度相转变	Commensurate-incommensurate transitions
6475	可溶性、偏析和混合	solubility, segregation, and mixing
6480	体系的其它相性质	other phase properties of systems
6480E	化学计量学及均匀性	stoichiometry and homogeneity
6480G	显微结构	microstructure
6490	状态方程、相平衡和相变的其它论题	other topics in equations of state, phase equilibria and phase transitions
	凝聚物质的热性质(0570 热力学;6300 点阵动力学; 非金属液体6660; 非金属固体中的热传导, 见 6660;非金属固体中的热传导, 见 6670;电子热传导, 见 7215、7220 或 7430E; 量子流体的热力学性质, 见 6740、6750 或 6760;固氮的热性质,见 6780)	thermal properties of condensed matter(0570 thermodynamics, 6300 lattice dynamics;for thermal conduction in nonmetallic liquids, see 6660; for thermal conduction in nonmetallic solids, see 6670; for electronic thermal conduction, see 7215, 7220 and 7430E; for thermo dynamic properties of quantum fluids, see 6740, 6750, and 6760; for thermal properties of solid helium, see 6780)
6500	液体热容	heat capacities of liquids
6520	固体热容(超导体比热,见 7430E;磁性系统比热,见 7540)	heat capacities of solids(for specific heat of superconductors, see 7430E; for specific heat of magnetic systems, see 7540)
6540	晶格热容和电子热容	lattice and electronic heat capacity
6540H	λ 和肖脱基异常	lambda and Schottky anomalies
6550	热力学性质和熵	thermodynamic properties and entropy
	热膨胀和热机械效应(6430 状态方程;电子热传导,见 7215 和 7220;超导体的热传导性,见 7430E;热释电和电热效应,见 7770)	thermal expansion and thermomechanical effects(6430 equations of state;for electronic thermal conduction, see 7215 and 7220; for thermal conductivity of superconductors, see 7430E; for pyroelectric and electrocaloric effects, see 7770)
6570	和电热效应,见 7770)	
6590	凝聚物质的热性质的其它论题	other topics in thermal properties of condensed matter
6600	凝聚物质非电子的输运性质	(nonelectronic) transport properties of condensed matter

6610	液体中的扩散和离子传导	diffusion and ionic conduction in liquids
6610C	扩散和热扩散	diffusion and thermal diffusion
6610E	离子传导(8245 电化学)	ionic conduction(8245 electrochemistry)
6620	扩散的动量输运(包括液体的粘滞性)	diffusive momentum transport(including viscosity of liquids)
6630	固体中的扩散和离子传导	diffusion and ionic conduction in solids
6630D	固体中扩散和离子传导理论	theory of diffusion and ionic conduction in solids
6630F	金属、半金属和合金的自扩散	Self-diffusion in metals, semimetals, and alloys
6630H	非金属中的自扩散和离子传导	Self-diffusion and ionic conduction in nonmetals
6630J	杂质的扩散, 徙动和位移	diffusion, migration and displacement of impurities
6630L	其它缺陷的扩散, 徙动和位移	diffusion, migration, and displacement of other defects
6630N	化学互扩散	chemical interdiffusion
6630Q	电徙动	electromigration
6660	非金属液体中的热传导(液态金属中的热传导, 见 7215C)	thermal conduction in nonmetallic liquids(for thermal conduction in liquid metals, see 7215C)
6670	非金属固体中的非电子热传导和热脉冲传播(固态金属中的热传导见 7215C 和 7215E; 晶格振动统计力学, 见 6370)	nonelectronic thermal conduction and heat pulse propagation in nonmetallic solids(for thermal conduction in solid metals, see 7215 C and 7215E; for statistical mechanics of lattice vibrations, see 6370)
6690	非电子输运性质的其它论题	other topics in nonelectronic transport properties
6700	量子流体和量子固体; 液氦和固氦(0530 量子统计力学)	quantum fluids and solids; liquid and solid helium(0530 quantum statistical mechanics)
6720	非简并流体的结构和动力学量子效应	quantum effects on the structure and dynamics of nondegenerate fluids
6740	氦 4 的玻色子简并和超流动性	Boson degeneracy and superfluidity of helium-4
6740B	唯象论和二流体模型	phenomenology and two fluid models
6740D	量子统计理论; 基态, 元激发	quantum statistical theory; ground state, elementary excitations
6740F	弛豫现象动力学	dynamics of relaxation phenomena
6740H	具体几何形态中的流体动力学; 窄通道流动	hydrodynamics in specific geometries, flow in narrow channels
6740K	热力学性质	thermodynamic properties
6740M	第一声	first sound

		transport processes, second and other sounds, and 输运过程,第二声和其它声、热逆流	thermal counterflow(for Kapitza resistance, see also 6830)
6740P	(卡皮查热阻,参见 6830)		
6740R	薄膜和弱连接输运		films and weak link transport
6740V	涡流和湍流		vortices and turbulence
6740X	杂质和其它缺陷		impurities and other defects
6750	费米流体;液氦 3		Fermi fluids; liquid helium-3
6750D	标准相		normal phase
6750F	超流相		superfluid phase
6760	混合系统;液氦 3 和液氦 4 的混合物		mixed systems; liquid helium 3-4 mixtures
6760D	He(I)- ³ He		He(I)- ³ He
6760F	He(II)- ³ He		He(II)- ³ He
6765	自旋极化氢和氦		spin-polarized hydrogen and helium
6770	薄膜(包括物理吸附)		films(inc.physical adsorption)
6780	固氦和相关量子晶体		solid helium and related quantum crystals
6780C	点阵动力学和声传播		lattice dynamics and sound propagation
6780G	热性质		thermal properties
			magnetic properties and nuclear magnetic resonance
6780J	磁性质和核磁共振		
6780M	缺陷、杂质和扩散		defects, impurities and diffusion
	量子流体和量子固体的其它论题		other topics in quantum fluids and solids (e.g. (如中子星物质)
6790			neutron star matter)
	表面和界面、薄膜和晶须(碰撞现		surfaces and interfaces; thin films and whiskers(for impact phenomena, see 7900; for 象,见 7900;晶体生长物理学,见 physics of crystal growth, see 6150C; for 6150C;腐蚀、氧化和表面处理,见 corrosion , oxidation and surface treatments, see 8160)
6800	液体表面和液体与液体界面(包括		fluid surfaces and interfaces with 表面张力,毛细现象,润湿及其相关 fluids(inc.surface tension, capillarity, wetting and related phenomena)
6810	现象)		
	表面能(表面张力,界面张力和接触		surface energy (surface tens ion, interface tension, angle of contact, etc)
6810C	角等)		
6810E	界面弹性,粘滞性和粘弹性		interface elasticity, viscosity, and viscoelasticity
6810G	界面活性,扩散		interface activity, spreading
	动力学(蒸发、吸附、凝结、催化学		kinetics (evaporation, adsorption, condensation, catalysis, etc)(8265 surface processes)
6810J	等)(8265 表面过程)		
6815	液体薄膜		liquid thin films
			monolayers and Langmuir Blodgett films(adsorbed layers,see 6845;for magnetic properties of monolayers,see 7570A)
6817	单层和朗缪尔布洛杰特膜(吸附层		
	见 6845, 单层的磁性, 见 7570A)		

6820	固体表面结构	solid surface structure
6822	表面扩散, 偏析和界面化合物形成	surface diffusion, segregation and interfacial compound formation
6825	固体表面和界面的力学和声学性质 (摩擦学, 见 6220P 和 8140P)	mechanical and acoustical properties of solid surfaces and interfaces (for tribology, see 6220 P and 8140P)
6830	固体表面和界面振动力学	dynamics of solid surfaces and interface vibrations
6840	固体的表面能; 热力学性质	surface energy of solids; thermodynamic properties
6842	表面相变和临界现象	surface phase transitions and critical phenomena
6845	固体-液体的界面过程(8265 吸附作用 和调节系数)	Solid-fluid interface processes (8265 sorption and accommodation coefficients)
6845B	吸附平衡	sorption equilibrium
6845D	蒸发和凝结, 吸附和退吸动力学	evaporation and condensation; adsorption and desorption kinetics
6848	固体-固体界面(包括双晶; 晶界, 见 6170N)	Solid-solid interfaces (inc .bicrystals; for grain boundaries, see 6170N)
6855	薄膜生长, 结构和外延(晶体生长和 薄膜淀积技术, 见 8110 和 8115)	thin film growth, structure and epitaxy (for techniques of crystal growth and film deposition, see 8110 and 8115)
6860	薄膜的非电子物理性质	nonelectronic physical properties of thin films
6865	低维结构: 生长、结构和非电子性 质	low-dimensional structure: growth, structure and nonelectronic properties
6870	晶须和枝蔓晶体: 生长, 结构和非电 性质	whiskers and dendrites: growth, structure, and nonelectronic properties
6890	表面和薄膜的结构和非电性质的其 它论题	other topics in the structure and nonelectronic properties of surfaces and thin films
7000	凝聚物质: 电子结构、电学、磁学和 光学性质(8140R 与材料处理有关 的电学和磁学性质; 8140T 与材料处 理有关的光学性质)	CONDENSED MATTER: ELECTRONIC STRUCTURE, ELECTRICAL, MAGNETIC, AND OPTICAL PROPERTIES (8140R electrical and magnetic properties related to materials treatment; 8140T optical properties related to materials treatment)
7100	电子态(6300 点阵动力学; 7300 表 面, 界面和薄膜)	electron states (6300 lattice dynamics, 7300 surfaces, interfaces, and thin films)
7110	一般理论和计算技术	general theories and computational techniques
7110A	费米液体理论和多电子系统的其他 唯象论模型(凝聚物质)	Fermi liquid theory and other phenomenological models of many electron systems (condensed matter)

- 7110C 电子气, 费米气(凝聚物质)(二维电
子气 见 7320D) electron gas, Fermi gas(condensed matter)(for two dimensional electron gas,see 7320D)
- 7110F 点阵费米子模型(凝聚物质)(包括哈
伯德模型) lattice Fermion models(condensed matter)(inc.Hubbard model)
- 7110P 降维费米子(凝聚物质)(包括任意
子、复合费米子、Luttinger 液体等) Fermions in reduced dimensions(condensed matter)(inc.anyons,composite Fermions,Luttinger liquid,etc)
- 7115 电子结构计算方法(凝聚物质)
电子结构计算方法(凝聚物质) methods of electronic structure calculations(condensed matter)
- 7115A 从头计算(凝聚物质电子结构)
平面波计算(凝聚物质电子结构)(包
括增广平面波法, 正交平面波法和
克勒尼希-彭尼模型) ab initio calculations(condensed matter electronic structure) plane wave calculations(condensed matter electronic structure)(inc.APW,OPW and Kronig-Penney model)
- 7115F 原子-分子轨道运算法(凝聚物质电
子结构)(包括哈特里-福克法, KKR
法和紧束缚计算法, 线性糕模轨函
法和价键法) atomic and molecular-orbital methods(condensed matter electronic structure)(inc.HF, KKR and tight-binding calculations,LMTO and valence bond method)
- 7115H 赝势法(凝聚物质电子结构)
赝势法(凝聚物质电子结构) pseudopotential methods(condensed matter electronic structure)
- 7115J 自洽场计算法(凝聚物质电子结构)
自洽场计算法(凝聚物质电子结构) self consistent field (SCF) calculations (condensed matter electronic structure)
- 7115M 密度泛函理论, 局域密度近似(凝聚
物质电子结构) density functional theory, local density approximation(condensed matter electronic structure)
- 7115P 电子结构计算中普通数学方法(凝
聚物质)(包括: 格林函数法, 矩阵
代数法, 变分法) general mathematical techniques in electronic structure calculations(condensed matter)(inc. Green's function, matrix algebra,variational techniques)
- 7115Q 分子动力学计算法和数值模拟法
(凝聚物质电子结构)(包括: 蒙特卡
罗法和 Car-Parinello 法) molecular dynamics calculations and other numerical simulations(condensed matter electronic structure)(inc.Monte Carlo and Car-Parinello methods)
- 7115R 相对论计算法(凝聚物质电子结构)
相对论计算法(凝聚物质电子结构) relativistic calculations(condensed matter electronic structure)
- 7115T 电子结构计算的其它方法(凝聚物
质)(包括团簇近似, 相干势近似计
算法, k. p 计算, 递推计算法和无
规相 [位] 近似计算法) other methods of electronic structure calculations(condensed matter)(inc.cluster approximation,CPA calculations,k.p calculations, recursion method and RPA calculations)

		electronic density of states determinations
7120	电子态密度的测定(包括液体半导体的能态)(6540E 点阵和电子热容)	(inc.energy states of liquid semiconductors ; 6540E lattice and electronic heat capacity)
7120A	计算电子态密度的数学方法和计算技术	mathematical and computational techniques for electronic density of states
7120C	金属、半金属和合金的电子态密度	electronic density of states of metals,semimetals,and alloys
7120F	非金属无机物的电子态密度	electronic density of states of nonmetallic inorganics
7120H	有机化合物, 聚合物和复合系统的电子态密度	electronic density of states of organic compounds, polymers,and complex systems
7125	电子结构: 态密度和带结构 (凝聚物质)	electronic structure: density of states and band structure(condensed matter)
7125C	能带结构计算技术(一般理论、群论的应用、解析开拓等)	techniques of band structure calculation (general theory, applications of group theory, analytic continuation, etc.)
7125H	费米表面参量测量(包括 DHVA、磁声、正电子湮没和回旋共振研究等)	measurement of Fermi surface parameters (inc.DHVA, magnetoacoustic, position annihilation, and cyclotron resonance studies, etc.)
7125J	有效质量和 g 因子	effective mass and g-factors
7125L	液态金属中电子能态	electron energy states in liquid metals
7125M	非晶态和玻璃态固体中电子能态	electron energy states in amorphous and glassy solids
7125P	晶状金属的能带结构	band structure of crystalline metals
7125R	晶状元素半导体中能带结构	band structure of crystalline elemental semiconductors
7125T	晶状半导体化合物和绝缘体能带结构	band structure of crystalline semiconductor compounds and insulators
7125V	有机化合物和聚合物的电子结构	electronic structure of organic compounds and polymers
7125W	固体团簇和纳米微粒的电子结构	electronic structure of solid clusters and nanoparticles
7125X	富勒烯及与富勒烯相关材料、夹层化合物(包括: 碳纳米管)的电子结构	electronic structure of fullerenes and fullerene related materials;intercalation compounds (inc.carbon nanotubes)
7127	强相关电子系统	strongly correlated electron systems
7128	窄禁带系统, 重费米子金属; 中间价固体 (有关磁性方面性质见 7520H 和 7530M)	Narrow-band systems,heavy-Fermion metals; intermediate-valence solids(for magnetic aspects,see 7520H and 7530M)
7130	金属-绝缘体转变	Metal-insulator transitions

		excitons and related phenomena(inc.electron-hole
7135	激子和相关现象(包括电子-空穴滴) drops)	
	极化声子(包括光子-声子和光子-磁	polaritons(inc.photon-phonon and photon-magnon
7136	振子相互作用)	interactions)
	极化子和电子-声子相互作用(晶格	polarons and electron-phonon interactions(for
	中声子-电子相互作用参见 6320K)	phonon-electron interactions in lattices, see also
7138		6320K)
7145	集体效应	collective effects
	交换、关联、介电和磁函数,等离子	exchange, correlation, dielectric and magnetic
7145G	体激元(6150L 晶体键联)	functions, plasmons(6150L crystal binding)
7145J	费米-托马斯模型	Fermi-Thomas model
	电荷密度波系统(自旋密度波 参见	Charge-density-wave systems (see also 7530F
7145L	7530F)	spin-density waves)
	电子总结合能计算(6150L 晶体键	calculations of total electronic binding
7145N	联)	energy(6150L crystal binding)
	局部单粒子电子态(杂质除外)(无序	localized single-particle electronic states(exc.
7150	结构中局域化,见 7155J)	impurities)(for localisation in disordered
7155	杂质和缺陷能级	structures, see 7155J)
7155D	金属、半金属和合金	impurity and defect levels
		metals, semimetals, and alloys
		impurity and defect levels in elemental
7155E	元素半导体中的杂质和缺陷能级	semiconductors
	四面体键联非金属中的杂质和缺陷	impurity and defect levels in tetrahedrally bonded
	能级(包括元素半导体, II-VI族,	nonmetals(inc.elemental, II - VI ,and III - V
7155F	III-V族半导体)	semiconductors)
	II-VI族, III-V族半导体中的杂质	impurity and defect levels in II-VI and III-V
7155G	和缺陷能级	semiconductors
	其它非金属半导体中的杂质和缺陷	impurity and defect levles in other
	能级(不包括元素半导体, II-VI族	nonmetals(exc.elemental, II - VI and III - V
7155H	和III-V族半导体)	semiconductors)
7155J	无序结构中局域化	localization in disordered structures
7165	正电子态(7870B 正电子湮没)	positron states(7870B positron annihilation)
	能级分裂和相互作用(7510 磁现	level splitting and interactions(7510 magnetic
	象;7530E 交换和超交换相互作	phenomena, 7530E exchange and superexchange
7170	用;7320 表面电子态)	interactions, 7320 electronic surface states)
7170C	晶体和配位场	crystal and ligand fields
	自旋轨道耦合,塞曼,斯塔克和应变	Spin-orbit coupling, Zeeman, Stark and strain
7170E	分裂	splitting
7170G	交换相互作用	exchange interactions
7170J	核态和相互作用	nuclear states and interactions

7170M	其它整体局域态(包括中间价)态,见 7320)	other bulk localised states(inc. intermediate valency)(for surface states, see 7320)
7190	电子态其它论题	other topics in electron states
7200	凝聚物质中的电子输运(表面,界面和薄膜,见 7300)	electronic transport in condensed matter(for surfaces, interfaces, and thin films, see 7 300)
7210	电子输运理论;散射机理	theory of electronic transport; scattering mechanisms
7210B	输运理论的一般论述	general formulation of transport theory
7210D	声子、磁振子和其它非局域激发产生的散射(7145 集体效应)	scattering by phonons, magnons, and other nonlocalized excitations(7145 collective effects)
7210F	点缺陷,位错,表面和其它缺陷引起的散射(包括近藤效应)	scattering by point defects, dislocations, surfaces, and other imperfections(inc.Kondo effect)
7215	金属和合金中的电子导电	electronic conduction in metals and alloys
7215C	非晶态金属,液态金属与合金中的电导和热传导	electrical and thermal conduction in amorphous and liquid metals and alloys
7215E	晶状金属和合金中的电导和热传导	electrical and thermal conduction in crystalline metals and alloys
7215G	磁场电效应和其它的磁输运效应	galvanomagnetic and other magnetotransport effects
7215H	热磁效应	thermomagnetic effects
7215J	温差电效应	thermoelectric effects
7215L	弛豫时间和平均自由程	relaxation times and mean free paths
7215N	集体模型,例如一维导体中的集体模型	collective modes, e.g. in one dimensional conductors
7215Q	散射机理和近藤效应(7520H 合金中的局域矩)	scattering mechanisms and Kondo effect(7520H local moments in dilute alloys)
7215R	量子局域化(金属/合金)	quantum localization(metals/alloys)
7220	半导体和绝缘体中的传导现象(非电子热传导,见 6670)	conductivity phenomena in semiconductors and insulators(for nonelectronic thermal conduction, see 6670)
7220D	一般理论,散射机理	general theory, scattering mechanisms
7220F	低场传输和迁移率;压电电阻	Low-field transport and mobility; piezoresistance
7220H	高(磁)场和非线性效应	High-field and nonlinear effects
7220J	载荷子:生成、复合、寿命和俘获	charge carriers: generation, recombination, lifetime, and trapping
7220M	磁场电效应和其它的磁输运效应	galvanomagnetic and other magnetotransport effects
7220N	热磁效应	thermomagnetic effects
7220P	温差电效应	thermoelectric effects

7225	自旋极化运输	spin polarized transport
7230	高频效应,等离子体效应	High-frequency effects; plasma effects
	光电导效应和光生伏打效应,光致	photoconduction and photovoltaic effects;
7240	介电效应	photodielectric effects
7250	声电效应	acoustoelectric effects
7255	磁声效应	magnetoacoustic effects
7260	混合传导性及其转变	mixed conductivity and conductivity transitions
7270	噪声过程和现象	noise processes and phenomena
	特定半导体和绝缘体的传导性	conductivity of specific semiconductors and
	(8140R 与材料处理有关的电和磁	insulators(8140R electrical and magnetic
7280	性质)	properties related to materials treatment)
7280C	元素半导体	elemental semiconductors
7280E	III-V 和 II-VI 族半导体	III-V and II-VI semiconductors
7280G	过渡金属化合物	Transition-metal compounds
7280J	其它无机晶态半导体	other crystalline inorganic semiconductors
7280L	有机半导体	organic semiconductors
7280N	非晶的和玻璃半导体	amorphous and glassy semiconductors
7280P	液体半导体	liquid semiconductors
		electrical conductivity of fullerenes and related
7280R	富勒烯及相关材料的电导率	materials
7280S	绝缘体的电导率	electrical conductivity of insulators
7280T	复合材料电导率	electrical conductivity of composite materials
		other topics in electronic transport in condensed
7290	凝聚物质中电子运输的其它论题	matter
	表面、界面和薄膜的电子结构及电	electronic structure and electrical properties of
7300	学性质	surfaces, interfaces, and thin films
	表面电子态(发射和碰撞现象,见	electronic surface states(for emission and impact
7320	7900)	phenomena, see 7900)
		surface states,band structure,electron density of
7320A	表面态,带结构,电子态密度	states
7320C	理想表面	ideal surfaces
		electron states in low-dimensional structures(inc.
	低维结构中的电子态(包括:量子	quantum dots, wells and wires,superlattices,layer
	点、量子阱、量子线、超点阵,层	structures, and two-dimensional electron gas)(for
	结构和二维电子气)(夹层化合物电	electronic structure of intercalation
7320D	子结构,见 7125X)	compounds,see 7125X)
		Weaklocalization (surface states)(e.g.,quantized
7320F	弱局域化(表面态)(例如量子化态)	states)
	表面杂质和缺陷能级;吸附物质能	surface impurity and defect levels;energy levels of
7320H	级	adsorbed species

7320J	退局域化过程(表面态)	delocalization processes(surface states)
	集体激发(表面态)(包括: 表面等离子体激元和 其它电荷密度激发)(集体效应 见 7 145)	collective excitations(surface states)(inc.surface plasmons and other charge density excitations)(see also 7145 collective effects)
7325	表面传导和载流子现象	surface conductivity and carrier phenomena
7330	表面双层、肖脱基势垒和功函数	surface double layers, Schottky barriers, and work functions
	介观体系和量子干涉(表面电子态, 也见 7320)	mesoscopic systems and quantum interference(see also 7320 electronic surface states,7340 electrical properties of interfaces)
7335	参见 7320, 界面电学性质, 见 7340)	
7335A	弹道运输	ballistic transport
	库仑阻塞; 量子隧穿(包括共振隧穿和单电子隧穿)	Coulomb blockade; quantum tunneling (inc.resonant tunnelling and single-electron tunnelling)
7335C	和单电子隧穿)	
7340	界面	interfaces
7340B	带静电	static electrification
	接触电阻,接触电势和功函数	contact resistance, contact potential, and work functions
7340C	接触电阻,接触电势和功函数	
7340E	整流	rectification
	隧道效应:一般理论(参见 7450 超导体中的隧道效应)	tunnelling: general(7450 in superconductors)
7340G	导体中的隧道效应)	
7340H	量子霍尔效应	quantum Hall effect
7340J	金属-金属接触	metal to metal contacts
	半导体-半导体接触、p-n 结和异质结	semiconductor to semiconductor contacts, p-n junctions, and heterojunctions
7340L	结	
7340M	半导体-电解质接触	Semiconductor-electrolyte contacts
7340N	金属-非金属接触	Metal-nonmetal contacts
	金属-绝缘体-半导体结构(包括半导体-绝缘体)	Metal-insulator-semiconductor structures (inc.semiconductor to insulator)
7340Q	体-绝缘体)	
7340R	金属-绝缘体-金属结构	Metal-insulator-metal structures
7340S	金属-半导体-金属结构	Metal-semiconductor-metal structures
7340T	半导体-绝缘体-半导体结构	Semiconductor-insulator-semiconductor structures
7340V	半导体-金属-半导体结构	Semiconductor-metal-semiconductor structures
	薄膜和低维结构的电子学性质	electronic properties of thin films and low-dimentional structure
7360	薄膜和低维结构的电子学性质	
7360D	金属薄膜	metallic thin films
7360F	半导体膜	semiconductor films
7360H	绝缘体薄膜	insulating thin films

7360J	元素半导体电学性质(薄膜/低维结构)	electrical properties of elemental semiconductors (thin films/low-dimensional structures)
7360L	II-VI和III-V族半导体电学性质(薄膜/低维结构)	electrical properties of II - VI and III - V semiconductors (thin films/low-dimensional structures)
7360N	非晶的和玻璃半导体的电学性质(薄膜/低维结构)	electrical properties of amorphous and glassy semiconductors (thin films/low-dimensional structures)
7360P	其它无机半导体电学性质(薄膜/低维结构)(不包括元素半导体, II-VI, III-V族和非晶半导体, 富勒烯)	electrical properties of other inorganic semiconductors(thin films/low-dimensional structures)(exc.elemental, II - VI , III - V and amorphous semiconductors, and fullerenes)
7360R	有机化合物和聚合物的电学性质(薄膜/低维结构)(包括: 有机半导体)	electrical properties of organic compounds and polymers(thin films/low-dimensional structures) (inc.organic semiconductors)
7360T	富勒烯及相关材料的电学性质(薄膜/低维结构)	electrical properties of fullerenes and related materials(thin films/low-dimensional structures)
7390	表面、界面和薄膜的电学性质的其它论题	other topics in electrical properties of surfaces, interfaces, and thin films
7400	超导电性	superconductivity
7410	超导发生、临界温度	occurrence, critical temperature
7420	理论	theory
7420D	唯象论和二流体理论	phenomenological and two fluid theories
7420F	BCS 理论及其应用	BCS theory and its applications
7420M	超导理论其它论题(包括哈伯德模型, t-J 模型和超导电性非常规机理)	other theories of superconductivity(inc.Hubbard model, t-J model, and unconventional mechanisms of superconductivity)
7430	一般性质	general properties
7430C	磁化曲线、迈斯纳效应、穿透深度	magnetization curves, Meissner effect, penetration depth
7430E	热力学性质;热导率	thermodynamic properties; thermal conductivity
7430F	超导体的输运性质(包括电导率、热导率、温差电效应)	transport properties of superconductors (inc.electrical and thermal conductivity. thermoelectric effects)
7430G	电磁场响应, 核磁共振, 超声衰减	response to electromagnetic fields, nuclear magnetic resonance, ultrasonic attenuation
7430J	超导体的电子结构	electronic structure of superconductors
7430L	超导体的力学和声学性质	mechanical and acoustic properties of superconductors
7430M	超导体的光学性质	optical properties of superconductors

7440	涨落和临界效应	fluctuations and critical effects
	邻近效应,隧道现象和约瑟夫森效应	proximity effects, tunnelling phenomena, and Josephson effect
7450	应	Josephson effect
7455	第一类超导电性	Type- I superconductivity
7460	第二类超导电性	Type- II superconductivity
7460E	混合态,Hc ₂ ,表面壳层超导性	mixed state, Hc ₂ , surface sheath
	通量钉扎;磁通量子与缺陷的相互	
7460G	作用	flux pinning; fluxon-defect interactions
7460J	临界电流	critical currents
7465	绝缘体-超导体转换	insulators-superconductor transition
7470	超导材料	superconducting materials
7470B	元素超导体	elemental superconductors
7470C	A15 型超导化合物和合金	superconducting A15 compounds and alloys
	Tc,K,临界电流的材料效应(8140R	material effects on Tc, K, critical currents(8140R
7470D	与材料处理有关的电性质)	electrical properties related to materials treatment)
	填隙式超导化合物和合金(包括: 碳	superconducting interstitial compounds and
7470E	化物, 氮化物)	alloys(inc.carbides,nitrides)
	Chevrel 相(三元钼硫属化合物)超导	Chevrel phase(ternary molybdenum chalcogenide)
7470F	体	superconductors
7470G	第一类超导体(非过渡金属)	type- I superconductors (non-transition metals)
	磁性超导体(包括: 再入型(铁磁)超	magnetic superconductors (inc.reentrant
7470H	导体, 及反铁磁超导体)	(ferromagnetic) and antiferromagnetic superconductors)
	超导层状结构和夹层化合物	superconducting layer structures and intercalation
7470J	超导层状结构和夹层化合物	compounds
7470K	有机超导体	organic superconductors
	第二类超导体(过渡金属,合金和化	Type- II superconductors (transition metals,
7470L	合物)	alloys and compounds)
	无定形、高度无序和颗粒状超导体	amorphous, highly disordered, and granular
7470M	无定形、高度无序和颗粒状超导体	superconductors
7470N	脏超导体	dirty superconductors
7470P	应用于高磁场的材料	materials for high-field applications
7470Q	拉夫斯相(C15)超导体	Laves phase (C15) superconductors
	亚稳态非化学计量比超导相	superconducting metastable nonstoichiometric
7470S	亚稳态非化学计量比超导相	phases
7470T	重费米子超导体	Heavy-Fermion superconductors
	钙钛矿相超导体(包括: 高温超导	perovskite phase superconductors(inc. high
7470V	体)	temperature superconductors)
7470W	富勒烯超导体	fullerene superconductors
7470Y	其他超导材料	other superconducting materials
7475	超导薄膜	superconducting films

7490	超导电性的其它论题	other topics in superconductivity
	磁学性质和磁性材料(8140R 与材料处理有关的磁性质;磁场电效应,见 721 5G 和 7220M;磁光效应,见 7215G 和 7820L)	magnetic properties and materials (8140R magnetic properties related to materials treatment, for galvanomagnetic effects, see 7215G and 7220M; for magneto-optical effects, see 7820L)
7500	磁有序化的一般理论及模型(0550 伊辛问题;7125 非局域单粒子电子态;7170 能级分裂和相互作用)	general theory and models of magnetic ordering(0550 Ising problems, 7125 nonlocalized single-particle electronic states, 7170 level splitting and interactions)
7510D	晶体场理论和自旋哈密顿量	Crystal-field theory and spin Hamiltonians
7510H	伊辛模型和其它经典自旋模型	Ising and other classical spin models
7510J	海森伯模型和其它量子化的局域自旋模型	Heisenberg and other quantized localized spin models
7510L	能带和巡回模型	band and itinerant models
7510N	自旋玻璃模型(磁性)	Spin-glass models(magnetism)
7520	抗磁性和顺磁性	diamagnetism and paramagnetism
7520C	非金属	nonmetals
7520E	金属和合金	metals and alloys
7520H	低合金中的局域磁矩;近藤效应(7215Q 电子传导)	local moment in dilute alloys; Kondo effect (7215Q electronic conduction)
7525	磁有序材料的自旋排列(包括:中子源 X 射线 散射等)	spin arrangements in magnetically ordered materials(inc. neutron and spin-polarised electron studies,synchrotron-source X-ray scattering,etc)
7530C	饱和磁矩和磁化率	saturation moments and magnetic susceptibility
7530D	自旋波(7650 自旋波共振)	spin waves(7650 spin wave resonance)
7530E	交换和超交换相互作用(7170 能级分裂和相互作用)	exchange and super exchange interactions(7170 level splitting and interactions)
7530F	磁有序材料的自旋密度波(参见 7145L 电荷密度波系统)	Spin-density waves in magnetically ordered materials(see also 7145L charge-density-wave systems)
7530G	各向异性	anisotropy
7530H	磁性杂质相互作用	magnetic impurity interactions
7530K	磁性相界(包括磁性转变,变磁性等)	magnetic phase boundaries(inc. magnetic transitions, metamagnetism, etc)
7530M	磁有序材料的价涨落,近藤晶格及重费米子(电子态见 7128)	valence fluctuations,Kondo lattice and heavy Fermions in magnetically ordered materials(for electron states,see 7128)
7530S	磁热效应	magnetocaloric effect
7530T	表面磁性	surface magnetism

		enhanced magnetoresistance in bulk magnetic materials(inc.colossal magnetoresistance)(see also
	大块磁性材料的磁阻增大(包括: 巨磁电阻), (磁场电性质和其他磁输运性质, 参见 7215G, 7220M; 薄膜和多层材料的磁阻增大见 7570P)	galvanomagnetic and other magnetotransport properties;for enhanced magnetoresistance in films and multilayers,see 7570P)
7530V	临界点效应,比热,短程有序(包括自旋玻璃)	Critical-point effects, specific heats, short-range order(inc.spin glasses)
7540	一般理论	general theory
		static properties of magnetic materials (inc.order
7540C	磁性材料的静态性质(包括: 有序参数, 静态磁化率, 热容, 临界指数)	parameter, static susceptibility, heat capacities, critical exponents)
7540D	伊辛模型和其它经典自旋模型	Ising and other classical spin models
7540F	海森伯模型和其它量子化自旋模型	Heisenberg and other quantized spin models
	磁性材料的动态性质(包括: 动态磁化率, 自旋波, 自旋扩散, 动态标度性)	dynamic properties of magnetic materials (inc. dynamic susceptibility, spin waves, spin diffusion,dynamic scaling)
7540G		numerical simulation studies of magnetic
7540M	磁性材料的数值模拟	materials
	具体磁性材料研究(8140R 与材料处理有关的磁学性质)	studies of specific magnetic materials(8140R magnetic properties related to materials treatment)
7550		
7550B	铁及其合金的铁磁性	ferromagnetism of Fe and its alloys
7550C	其它金属的铁磁性	ferromagnetism of other metals
7550D	非金属的铁磁性	ferromagnetism of nonmetals
7550E	反铁磁体	antiferromagnetics
7550G	亚铁磁体	ferrimagnetics
7550K	非晶磁性材料	amorphous magnetic materials
7550L	自旋玻璃(磁性材料)	spin glasses(magnetic materials)
7550M	磁性液体	magnetic liquids
7550P	磁性半导体	magnetic semiconductors
	界面结构的磁性(包括: 层状结构和超晶格结构)	magnetism in interface structures(inc. layer and superlattice structures)
7550R		
7550S	磁记录材料	magnetic recording materials
	高矫顽磁性材料(包括: 永磁体材料)	high coercivity magnetic materials(inc. permanent magnet materials)
7550V		
7550X	分子磁体	molecular magnets
		domain effects, magnetization curves, and
7560	磁畴效应,磁化曲线和磁滞	hysteresis
		domain walls and domain structure (for magnetic
7560C	磁畴壁和磁畴结构(磁泡,见 7570K)	bubbles, see 7570K)

	磁化曲线、磁滞、巴克好森及相关效应	magnetization curves, hysteresis, Barkhausen and related effects
7560E	效应	
7560G	高矫顽力材料	high coercivity materials
7560J	微粒系统	Fine-particle systems
7560L	磁后效	magnetic aftereffects
		magnetic annealing and temperature-hysteresis effects
7560N	磁退火和温度滞后效应	
7570	磁膜和磁片	magnetic films and plates
7570A	单层和覆盖层的磁性	magnetic properties of monolayers and overlayers
7570D	均匀态的特性	properties in uniform state
7570F	多层磁有序	magnetic ordering in multilayers
		domain structure in magnetic films(magnetic bubbles)
7570K	磁性薄膜的畴结构(磁泡)	enhanced magnetoresistance in magnetic films
	磁性薄膜和多层材料的磁电阻增强(包括:巨磁电阻和自旋阀)(磁场电效应和其它磁输运效应,参见	and multilayers (inc. giant magnetoresistance and spin valves)(see also 7215G, 7220M galvanomagnetic and other magnetotransport effects)
7570P	7215G, 7220M)	
		magnetomechanical and magnetoelectric effects,
7580	磁机械效应和磁电效应,磁致伸缩	magnetostriction
7590	磁学性质和磁性材料的其它论题	other topics in magnetic properties and materials
		magnetic resonances and relaxation in condensed
	凝聚物质中的磁共振和弛豫;穆斯堡尔效应(测量技术,见 0758)	matter; Moessbauer effect(for measurement techniques, see 0758)
7600		
7620	共振和弛豫的一般理论	general theory of resonances and relaxation
7630	电子顺磁共振和弛豫	electron paramagnetic resonance and relaxation
7630D	离子和杂质:一般问题	ions and impurities: general
7630F	铁族(3d)离子和杂质(Ti-Cu)	iron group (3d) ions and impurities (Ti-Cu)
	铂族和钯族(4d 和 5d)离子和杂质	platinum and palladium group (4d and 5d) ions
7630H	(Zr-Ag 和 Hf-Au)	and impurities (Zr-Ag and Hf-Au)
7630K	稀土离子和杂质	Rare-earth ions and impurities
		other ions and impurities(for colour centres, see
7630L	其它离子和杂质(色心,见 7630M)	7630M)
7630M	色心和其它缺陷	colour centres and other defects
7630P	导电电子	conduction electrons
7630R	自由基	free radicals
7640	抗磁共振和回旋共振	diamagnetic and cyclotron resonances

	铁磁、反铁磁和亚铁磁共振;自旋波	ferromagnetic, antiferromagnetic, and ferrimagnetic resonances; spin wave resonance
7650	共振(7530D 自旋波)	(7530D spin waves)
7660	核磁共振和弛豫	nuclear magnetic resonance and relaxation
7660C	化学和奈特移动	chemical and Knight shifts
7660E	弛豫效应	relaxation effects
7660G	四极共振	quadrupole resonance
7660J	内磁场效应	effects of internal magnetic fields
7660L	自旋回波	spin echoes
7670	磁双共振和交叉效应	magnetic double resonances and cross effects
7670D	电子-核双共振	Electron-nuclear double resonance (ENDOR)
7670E	动态核极化	dynamical nuclear polarization
7670F	双核磁共振	double nuclear magnetic resonance (DNMR)
7670H	光双磁共振	optical double magnetic resonance (ODMR)
7670K	电子双共振	electron double resonance (ELDOR)
7675	凝聚物质中 μ 子自旋和弛豫	muon spin rotation and relaxation in condensed matter
7680	穆斯堡尔效应;其它 γ 射线波谱学	Mössbauer effect; other gamma-ray spectroscopy
7690	磁共振和弛豫的其它理论(包括 μ 子探针研究)	other topics in magnetic resonances and relaxation(incl.muon probe studies)
7700	介电性质和材料(传导现象,见 7220 或 7280)	dielectric properties and materials(for conductivity phenomena, see 7220 and 7280)
7720	电容率	permittivity
7730	极化和去极化效应	polarization and depolarization effects
7740	介电损耗和弛豫	dielectric loss and relaxation
7750	电介质击穿和空间电荷效应	dielectric breakdown and space-charge effects
7755	电介质薄膜	dielectric thin films
7760	压电性和电致伸缩(压光效应,见 7820H)	piezoelectricity and electrostriction (for piezo-optical effects, see 7820H)
7770	热释电和电热效应	pyroelectric and electrocaloric effects
7780	铁电现象和反铁电现象	ferroelectricity and antiferroelectricity
7780B	转变和居里点	transitions and Curie point
7780D	畴结构和畴效应;滞后现象	domain structure and effects; hysteresis
7780F	铁电开关现象	ferroelectric switching phenomena
7785	电共振	electrical resonances
7790	介电性质和材料的其它论题	other topics in dielectric properties and materials

		optical properties and condensed matter
	光学性质和凝聚物质光谱学以及物	spectroscopy and other interactions of matter with
	质与粒子和辐射的其它相互作用	particles and radiation (for phonon spectra, see
7800	(声子谱,见 63 00)	6300)
		optical properties and materials(8140T optical
	光学性质和材料(8140T 与材料处	properties related to materials treatment;for
	理有关的光学性质;微波激光器和	masers, and lasers see 4252 and 4255
7820	激光器,分别见 4252 和 4255)	respectively)
7820B	一般理论(均匀质材料)	general theory (for pure homogeneous materials)
7820D	光学常数和参数	optical constants and parameters
7820E	旋光本领	optical rotatory power
	双折射(包括应力双折射和流动双	birefringence(inc. stress birefringence, flow
7820F	折射等)	birefringence, etc)
7820H	压光效应,弹光效应和声光效应	Piezo-, elasto- and acousto-optical effects
7820J	电光效应	Electro-optical effects
7820L	磁光效应	Magneto-optical effects
7820N	热光效应	Thermo-optical effects
		photonic band gap(condensed matter) see also
7820P	光子带隙(凝聚物质)参见 4270Q	4270Q
	凝聚物质的其它光学性质(包括:光	other optical properties of condensed matter (inc.
7820W	折射效应)	photorefractive effect)
		infrared and Raman spectra and scattering
	红外光谱和喇曼光谱及散射(凝聚	(condensed matter)(for stimulated Raman
7830	物质), (受激喇曼散射参见 4265C)	scattering,see also 4265C)
7830C	液体中红外光谱和喇曼光谱	infrared and Raman spectra in liquids
7830E	金属中红外光谱和喇曼光谱	infrared and Raman spectra in metals
7830G	无机晶体中的红外及喇曼光谱	infrared and Raman spectra in inorganic crystals
7830J	有机晶体中的红外及喇曼光谱	infrared and Raman spectra in organic crystals
7830L	无序固体的红外光谱和喇曼光谱	infrared and Raman spectra in disordered solids
	布里渊散射和瑞利散射; 其它光散	Brillouin and Rayleigh scattering; other light
7835	射	scattering
7840	可见光谱和紫外光谱	visible and ultraviolet spectra
7840D	液体	liquids
		visible and ultraviolet spectra of elemental
7840E	元素半导体的可见光谱和紫外光谱	semiconductors
7840F	四面体键联非金属	tetrahedrally bonded nonmetals
	II-VI族和III-V族半导体的可见光	visible and ultraviolet spectra of II-VI and III-
7840G	谱和紫外光谱	V semiconductors
7840H	其它非金属	other nonmetals

7840K	金属、半金属、合金	metals, semimetals, and alloys
	受激发射(4265C 非线性光学中的	
7845	受激发射)	stimulated emission(4265C in nonlinear optics)
	凝聚物质的超快光学测量(包括: 时	ultrafast optical measurements in condensed
	间分辨光谱学)(参见 4280W 超快光	matter (inc. time resolved optical
7847	学技术)	spectroscopies (see also 4280W ultrafast optical techniques)
7850	固体中杂质和缺陷的吸收	impurity and defect absorption in solids
7850E	绝缘体	insulators
7850G	半导体	semiconductors
7850J	金属,半金属和合金	metals, semimetals, and alloys
7855	光致发光	photoluminescence
7855B	液体	liquids
7855C	元素半导体的光致发光	photoluminescence in elemental semiconductors
7855D	四面体键联非金属	tetrahedrally bonded nonmetals
	II-VI族和III-V族半导体的光致发	photoluminescence in II - VI and III - V
7855E	光	semiconductors
7855F	卤化碱	alkali halides
7855H	其它无机材料	other inorganic materials
7855K	有机材料	organic materials
	其它发光谱和辐射复合(光电导效	other luminescence spectra and radiative
	应和光生伏打效应,见 7240;光致发	recombination(for photoconduction and
7860	光,见 7855)	photovoltaic effects, see 7240; for photoluminescence, see 7855)
7860F	电致发光	electroluminescence
7860H	阴极射线致发光,离子发光	cathodoluminescence, ionoluminescence
7860K	热致发光	thermoluminescence
7860M	声致发光,摩擦发光	sonoluminescence, triboluminescence
	化学致发光(8240T 化学致发光和	Chemiluminescence (8240T chemiluminescence
7860P	化学激光动力学)	and chemical laser kinetics)
	薄膜和低维结构的光学性质	optical properties of thin films and
7865	金属	low-dimensional structures
7865E	金属	metals
	元素半导体的光学性质(薄膜/低维	optical properties of elemental semiconductors
7865H	结构)	(thin films/low-dimensional structures)
7865J	非金属	nonmetals
	II-VI族和III-V族半导体的光学性	optical properties of II - VI and III - V
7865K	质(薄膜/低维结构)	semiconductors(thin films/low-dimensional structures)

7865M	非晶和玻璃半导体及绝缘体的光学性质(薄膜/低维结构)	optical properties of amorphous and glassy semiconductors and insulators(thin films/low-dimensional structures)
7865P	其它无机半导体和绝缘体的光学性质(薄膜/低维结构)(不包括元素半导体, II-VI族和III-V族半导体, III-V族半导体, 富勒烯)	optical properties of other inorganic semiconductors and insulators(thin films/low dimensional structures) (exc. elemental, II-VI and III - V semiconductors, amorphous semiconductors and insulators,and fullerenes)
7865T	有机化合物和聚合物的光学性质(薄膜/低维结构)(包括: 有机半导体)	optical properties of organic compounds and polymers(thin films/low-dimensional structures) (inc.organic semiconductors)
7865V	富勒烯和相关材料的光学性质(薄膜/低维结构)	optical properties of fullerenes and related materials(thin films/low-dimensional structures)
7870	物质同粒子和辐射的其它相互作用	other interactions of matter with particles and radiation
7870B	正电子湮没(7165 正电子态)	positron annihilation(7165 positron states)
7870C	X 射线散射	X-ray scattering
7870D	X 射线吸收及吸收限	X-ray absorption and absorption edges
7870E	X 射线发射阈和荧光	X-ray emission threshold and fluorescence
7870F	沟道辐射(参见 6180M 粒子的沟道效应, 阻塞效应和能量损失)	channelling radiation(see also 6180M channelling, blocking and energy loss of particles)
7870G	微波和射频相互作用(共振除外)	microwave and radiofrequency interactions(exc. resonances)
7890	凝聚物质光学性质和物质同粒子及辐射其它相互作用中的其它论题	other topics in optical properties of condensed matter and other interactions of matter with particles and radiation
7900	液体和固体的电子发射和离子发射;碰撞现象	electron and ion emission by liquids and solids; impact phenomena
7920	表面碰撞现象(包括电子谱和溅射)	surface impact phenomena(inc. electron spectra and sputtering)
7920D	激光-光碰撞现象	Laser-light impact phenomena
7920F	电子碰撞:俄歇发射	electron impact: Auger emission
7920H	电子碰撞:次级发射	electron impact: secondary emission
7920K	其它电子碰撞现象	other electron impact phenomena
7920N	原子、分子和离子碰撞	atom, molecule, and ion impact
7920R	原子束与分子束相互作用	atomic and molecular beam interactions
7940	热离子发射(从表面)	thermionic emission(from surface)
7960	光电发射和光电子谱(凝聚物质)	photoemission and photoelectron spectra (condensed matter)

7960C	干净金属	clean metals
7960E	半导体和绝缘体	semiconductors and insulators
7960G	复合面	composite surfaces
7970	场致发射和场致电离	field emission and field ionization
7975	外激电子发射	exoelectron emission
7980	共振隧道效应	resonance tunnelling
7990	凝聚物质中发射和碰撞现象的其它论题	other topics in emission and impact phenomena in condensed matter
		CROSS-DISCIPLINARY PHYSICS AND RELATED AREAS OF SCIENCE AND TECHNOLOGY
8000	物理学交叉学科及有关科学技术领域	
8100	材料科学	materials science
	晶体生长和提纯方法(晶体生长物理学,见 6150C;外延生长方法,见 6855)	methods of crystal growth and purification(for physics of crystal growth, see 6150C; for epitaxial growth methods, see 6855)
8110	6855)	
8110B	汽相生长	growth from vapour
8110D	溶液生长	growth from solutions
8110F	熔体生长	growth from melts
8110H	区域熔化和区域提纯	zone melting and zone refining
8110J	固相生长(包括多相扩散和再结晶)	growth from solid phases(inc. multiphase diffusion and recrystallisation)
	薄膜淀积法(包括外延生长)(6855)	methods of thin film deposition(inc.epitaxial growth methods,6855 thin film growth, structure, and epitaxy)
8115	薄膜生长、结构、外延)	
8115C	阴极溅射淀积	deposition by cathodic sputtering
8115G	真空淀积	vacuum deposition
8115H	化学汽相淀积	chemical vapour deposition
8115I	脉冲激光淀积	pulsed laser deposition
8115J	离子镀敷和其它汽相淀积	ion plating and other vapour deposition
8115L	液相(熔体和溶液)淀积	deposition from liquid phases (melts and solutions)
		thin film growth from solid phases(inc .solid phase epitaxy)
8115N	固相薄膜生长(包括: 固相外延)	
8115R	喷涂层技术	spray coating techniques
8116	纳米制造方法和过程	methods of nanofabrication and processing
8116D	纳米自组织	self-assembly in nanofabrication
8116N	平板印刷	nanolithography
8116R	图饰	nanopatterning
8116T	纳米定位和原子操纵	nanopositioning and atom manipulation
8120	材料的其它制备方法	other methods of preparation of materials
8120C	真空法	vacuum methods

8120E	粉末技术,压实与烧结	powder techniques, compaction and sintering
8120G	特殊金属与合金(坯块,假合金)	specific metals and alloys (compacts , pseudoalloys)
8120J	弥散、纤维和片晶强化金属基复合材料	dispersion reinforced, fibre reinforced, and platelet reinforced metal based composites
8120L	陶瓷和耐火材料	ceramics and refractories
8120N	金属陶瓷,陶瓷和耐火复合材料	cermets, ceramic and refractory composites
8120P	玻璃	glasses
8120Q	玻璃基复合材料,玻璃陶瓷	Glass-based composites, vitroceraamics
8120S	聚合物	polymers
8120T	增强聚合物和聚合物基复合材料	reinforced polymers and polymer-based composites
8120V	富勒烯, 富勒烯相关材料, 夹层化合物及金刚石的制备(包括: 石墨)	preparation of fullerenes and fullerene related materials, intercalation compounds,and diamond (inc.graphite)
8130	相图	phase diagrams and microstructures developed by solidification and solid-solid phase transformations (6100 structure of liquids and solids; 6470 phase equilibria, phase transitions, and critical points)
8130B	金属和合金相图	phase diagrams of metals and alloys
8130D	其它材料相图	phase diagrams of other materials
8130F	固化(6470D 固-液相变)	solidification(6470D solid-liquid transitions)
8130H	定组分固体-固体相变:多形性转变,大块相变和有序-无序变化(6470K 固-固相变)	Constant-composition solid-solid phase transformations' polymorphic, massive, and order-disorder(6470K solid-solid transitions)
8130K	马氏体相变(6470K 固-固相变)	martensitic transformations(6470K solid-solid transitions)
8130M	沉淀(包括偏析;6475 可溶性,偏析和混合)	precipitation(inc. segregation; 6475 solubility, segregation and mixing)
8140	材料处理及其对微观结构和性质的影响	treatment of materials and its effects on microstructures and properties
8140C	固溶硬化、沉淀硬化和弥散硬化	solid solution hardening, precipitation hardening, dispersion hardening
8140E	冷加工,加工硬化;形变后退火,恢复和再结晶;织构	cold working, work hardening; post-deformation annealing, recovery and recrystallisation; textures
8140G	其它热处理和形变热处理(包括其它类型退火)	other heat and thermomechanical treatments (inc.other annealing types)

- elasticity and anelasticity(6220D elastic constants,
弹性和滞弹性(6220D 弹性常
8140J 数;6240 滞弹性,内耗和机械共振) resonances)
形变,塑性和蠕性(6220F 形变和塑
8140L 性;6220H 蠕变) deformation, plasticity and creep(6220F
deformation and plasticity, 6220H creep)
- 疲劳、脆变和断裂(包括硬度;6220M fatigue, embrittlement, and fracture (inc.hardness;
8140N 疲劳、脆性、断裂和裂纹) 6220M fatigue, brittleness, fracture and cracks)
- 摩擦、润滑和磨损(6220P 摩擦学) friction, lubrication, and wear(6220P tribology)
- 与处理条件有关的电磁性质(7280
8140R 具体半导体和绝缘体的传导semiconductors and insulators, 7470
性;7470 超导体材料;7550 具体磁superconducting materials, 7550 studies of
性材料研究) specific magnetic materials)
- 与处理条件有关的光学性质(7820
8140T 光学性质和材料) optical properties related to treatment
conditions(7820 optical properties and materials)
corrosion, oxidation, etching, and other surface
- 8160 腐蚀、氧化、刻蚀和其它表面处理 treatments
金属和合金(包括应力腐蚀断裂;防
8160B 腐蚀) anticorrosion)
8160C 半导体 semiconductors
8160D 陶瓷和耐火材料 ceramics and refractories
8160F 玻璃 glasses
8160H 复合材料 composites
8160J 聚合物 polymers
- 材料试验(包括检验样品制备和金
8170 见 4630R) examination, metallographic techniques; for
相技术)(固体力学中的测量和技术,measurement in the mechanics of solids, see
8170C 无损检测 nondestructive testing
nondestructive testing: eddy current testing and
8170E 无损检测: 涡流试验及相关技术 related techniques
nondestructive testing:optical methods (inc.
无损检测: 光学方法(包括: 红外成
8170G 象、光学干涉量度学及全息术) infrared imaging,optical interferometry and
holography)
- 无损检测: X 射线法(包括: 射线照
8170J 相术和电子计算机化断层摄影法) radiography and computerised tomography)
nondestructive testing: X-ray methods (inc.
nondestructive testing: other techniques (inc.
无损检测: 其它技术(包括: 微波成
8170L 象, MRI 及中子射线照相术) microwave imaging, MRI and neutron
radiography)

8180	减重实验(8765 宇航生物物理学和医学物理学)	reduced gravity experiments(8765 aerospace biophysics and medical physics)
		intelligent materials(inc.smart materials)(see also
8185	智能材料(包括: 机敏材料)(电流变和磁流变流体, 参见 4660H)	4660H electrorheological and magnetorheological fluids)
8190	材料科学的其它论题	other topics in materials science
8200	物理化学	physical chemistry
8220	化学动力学	chemical kinetics
8220D	统计理论(包括过渡态)	statistical theories(inc.transition state)
8220F	随机模型、轨迹模型和其他理论与模型	stochastic and trajectory models, other theories and models
8220H	机理和产物分布	mechanisms and product distribution
		potential energy surfaces for chemical
	化学反应的势能面(3420 分子间力;3430 碰撞的势能面;3450L 原子和分子束研究)	reactions(3420 intermolecular forces, 3430 potential energy surfaces for collisions, 3450L atomic and molecular beam studies)
8220K	非平衡动力学(包括振荡反应的涨落现象和动力学)(毕罗索夫-扎鲍梯斯基等)	nonequilibrium kinetics(inc.fluctuation phenomena and kinetics of oscillating reactions (Belousov-Zhabotinskii, etc.)
8220M	反应速率常数、反应截面和活化能的测定	measurements of rate constants, reaction cross sections, and activation energies
8220R	能量分布和传递,弛豫	energy distribution and transfer, relaxation
		动力学和同位素效应(同位素对电子结构的影响,参见 3130G)
8220T	动力学和同位素效应(同位素对电子结构的影响,参见 3130G)	kinetic and isotope effects(for isotope effects on electronic structure, see also 3130G)
8220W	计算模拟	computational modelling
8230	具体化学反应;反应机理	specific chemical reactions; reaction mechanisms
	原子和自由基反应(包括其自身与分子间的反应)	atom and radical reactions (with themselves or with molecules)
8230C	分子-分子反应	Molecule-molecule reactions
8230E	离子-分子、离子-离子和电荷转移反应(3470 电荷转移)	Ion-molecule, ion-ion, and charge-transfer reactions (3470 charge transfer)
8230F		
		chemical exchanges (substitution, atom transfer, abstraction, disproportionation, and group exchange)
8230H	化学交换(取代、原子转移、提取、歧化和基团交换)	chemical exchanges (substitution, atom transfer, abstraction, disproportionation, and group exchange)
		decomposition reactions (pyrolysis, dissociation, and group ejection)
8230L	分解反应(热解、离解和基团排出)	decomposition reactions (pyrolysis, dissociation, and group ejection)
8230N	缔合、加成和插入	association, addition, and insertion
8230Q	异构化和重排	isomerization and rearrangement
8230S	连锁反应	chain reactions

		homogeneous catalysis(8265J heterogeneous catalysis at surfaces)
8230V	均相催化(表面多相催化见 8265J)	
8235	聚合物反应和聚合作用	polymer reactions and polymerization
8240	化学动力学和反应:特殊方式	chemical kinetics and reactions; special regimes
	原子束和分子束反应(3450L 用原子束及分子束研究化学反应)	atomic and molecular beam reactions(3450L chemical reactions as studied by atomic and molecular beams)
8240D		
8240F	激波	shock waves
8240J	快速反应和超快速反应	fast and ultrafast reactions
8240M	脉冲技术	impulse techniques
8240P	火焰、燃烧和爆炸	flames, combustion, and explosions
8240Q	放电(包括流动性余辉等)	electric discharges(inc.floating afterglow)
	化学致发光和化学激光动力学(4255K 化学激光器;7860P 化学致发光)	chemiluminescence and chemical laser kinetics (4255K chemical lasers, 7860P chemiluminescence)
8240T		
	高层大气化学(9410 大气层成份, 大气层成份, 大气层成份, 大气层成份)	chemistry of the upper atmosphere(9410 atmospheric composition, chemical reactions and processes)
8240W	化学反应和过程)	
	电化学和电泳(6610 液体离子传导;电渗透,见 8265)	electrochemistry and electrophoresis(6610 ionic conduction in liquids; for electro-osmosis, see 8265)
8245		
	光化学和辐射化学(包括摄影过程)	photochemistry and radiation chemistry (inc. chemistry of photographic process,3350
	化学;3350 荧光和磷光,无辐射跃迁)	fluorescence, phosphorescence; radiationless transitions)
8250	迁)	
8250C	量子产额	quantum yields
	用发光和无辐射跃迁研究光致离解、光致电离	photodissociation, photoionization as studied by luminescence and radiationless transitions
8250E		
	红外光、紫外光和可见光辐射产生的光解作用和光致离解	photolysis and photodissociation by IR,UV and visible radiation
8250F		
	X 射线和 γ 射线产生的辐射分解和离解	radiolysis and dissociation by X- rays and gamma-rays
8250G		
8250J	能量吸收	energy deposition
8250L	离子对产额	Ion-pair yields
8250R	g 值	g values
8255	放射化学	radiochemistry
8255D	热原子反应	hot atom reactions
8255G	正电子素化学	positronium chemistry
8255K	示踪反应	tracer reactions
8260	化学热力学(0570 热力学)	chemical thermodynamics(0570 thermodynamics)

8260C	燃烧、反应和生成物的焓	enthalpies of combustion, reaction and formation
8260F	热容量和相变热	heat capacity and heats of phase transitions
8260H	化学平衡和平衡常数	chemical equilibria and equilibrium constants
8260L	溶液热力学	thermodynamics of solutions
8260N	成核	nucleation
8265	表面过程	surface processes
8265D	表面热力学	thermodynamics of surfaces
	薄膜和膜法:离子交换、渗析、渗透、	film and membrane processes; ion exchange;
8265F	电渗透	dialysis; osmosis, electro-osmosis
	表面多相催化和其它表面反应	heterogeneous catalysis at surfaces and other surface reactions(8230V homogeneous
8265J	(8230V 均相催化;6810J 动力学)	catalysis;6810J kinetics)
	吸附作用和调节系数(6810J 动力	sorption and accommodation coefficients(6810J
8265M	学)	kinetics)
8265N	其他气体-表面相互作用	other gas-surface interactions
8270	分散体系(流动特性,见 4755K)	disperse systems(for flow behaviour, see 4755K)
8270D	胶体	colloids
8270G	凝胶和溶胶	gels and sols
8270K	乳胶和悬浮体	emulsions and suspensions
8270R	气溶胶和泡沫	aerosols and foams
8280	化学分析和有关物理分析方法	chemical analysis and related physical methods of analysis
	色谱法(包括纸色谱法、柱色谱法、	Chromatography (inc.paper, column, thin film,
8280B	薄膜色谱法、汽相色谱法和离子交	vapour phase, and ion exchange chromatography)
	换色谱法)	
	电磁辐射光谱测定法(包括光学、	electromagnetic radiation spectrometry (inc.
8280D	X-射线和磁共振方法)	optical, X-ray, and magnetic resonance methods)
8280F	电化学法	electrochemical methods
8280H	放射化学活化分析法	radiochemical activation analysis methods
	能量转换光谱法(包括光电、光声和光热等光谱法)	energy conversion spectroscopic methods of chemical analysis(inc.optogalvanic,photoacoustic
8280K	和光热等光谱法)	and photothermal spectroscopic methods)
	质谱分析(0775 质谱仪和质谱分析	mass spectrometry(0775 mass spectrometers and
8280M	技术)	spectrometry techniques)
8280P	光电子光谱学、俄歇光谱学	photoelectron and Auger spectroscopy
8280S	利用依数性的方法	methods using colligative properties
8280T	化学传感器(包括: 气体传感器)	chemical sensors(inc.gas sensors)
8290	物理化学的其它论题	other topics in physical chemistry

8600	能源研究与环境科学	energy research and environmental science
		energy resources and their utilization
8610	能源及其利用(包括经济方面;核工程 和核动力研究,见 2800)	(inc.economic aspects;for nuclear engineering and nuclear power studies, see 2800)
8610B	矿物燃料和其它燃料(包括生物质 的,合成的,油页岩,雾化燃料和氢)	fossil and other fuels(inc.biomass, synthetic, oil shale, pulverised fuels and hydrogen)
8610D	风能	wind energy
8610F	潮汐能和水流能(包括水波能)	tidal and flow energy(inc.water-wave energy)
8610H	地热能	geothermal energy
8610K	太阳能(包括太阳能会聚器和空间 加热利用)	solar energy(inc.solar concentrators and space heating applications)
8610N	核能(包括核反应热)	nuclear energy(inc.nuclear process heat)
8610Z	其它论题(包括工业热回收)	other topics(inc.industrial heat recovery)
8630	能量转换	energy conversion
8630D	电化学能转换:一般问题(超离子导 体,见 6630H)	electrochemical conversion: general(for superionic conductors, see 6630H)
8630E	原电池	primary cells
8630F	蓄电池	secondary cells
8630G	燃料电池	fuel cells
8630J	光电能转换:太阳能电池和阵列	photoelectric conversion, solar cells and arrays
8630K	光电化学能转换	photoelectrochemical conversion
8630L	电气体动力转换和磁流体动力转换 (5275 等离子体器件和应用)	electrodynamic and magnetohydrodynamic conversion(5275 plasma devices and applications)
8630M	温差电转换	thermoelectric conversion
8630N	热离子转换	thermionic conversion
8630P	光合作用(包括生物能和生物质转 换;8725 细胞生物物理学)	photosynthesis(inc.bioenergy and biomass conversion; 8725 cellular biophysics)
8630Q	化学能转换(包括煤气化;电化学转 换,见 8630D;光电化学转换,见 8630K)	chemical energy conversion(inc.coal gasification; for electrochemical conversion, see 8630D; for photoelectrochemical conversion, see 8630K)
8630R	热能转换(热机和热泵)	thermal energy conversion (heat engines and heat pumps)
8630S	光热转换(包括太阳能吸收和太阳 池,空间加热,冷冻机和蒸馏器)	photothermal conversion(inc.solar absorbers and solar ponds, space heating, refrigerators and stills)
8630Z	其它论题	other topics
8640	能量贮存(二次能)	energy storage (secondary energy)

8640C	机械能贮存(包括压缩空气贮存)	storage in mechanical energy(inc. compressed air storage)
8640F	热能贮存(包括太阳池和贮罐)	storage in thermal energy (inc. solar ponds and tanks)
8640H	化学能贮存	storage in chemical energy
8640K	贮氢及其技术	hydrogen storage and technology
8640Z	其它论题	other topics
8660	能量需求:生态方面	requirement for energy: ecological aspects
	环境科学(8760R 放射性污染;海洋	environmental science(8760R radioactive pollution;for oceanographic aspects, see 9210; for
	学方面,见 9210;水文学方面,见	hydrological aspects see 9240; for meteorological
8670	9240;气象学方面,见 9260)	aspects see 9260)
8670C	土壤	soil
8670E	水	water
8670G	大气	atmosphere
8670J	噪声(4350 噪声及其影响与控制)	noise(4350 noise, its effects and control)
8670L	环境科学中的测量技术	measurement techniques in environmental science
8670Z	其它论题	other topics
8690	能源研究和环境科学中的其它论题	other topics in energy research and environmental science
8700	生物物理学、医学物理学和生物医学工程	Biophysics, medical physics, and biomedical engineering
	普通生物物理学、理论生物物理学	general, theoretical, and mathematical biophysics
	和数学生物物理学(包括生物系统	(inc. logic of biosystems, quantum biology, and
	和逻辑,量子生物学,热力学,信息论,	relevant aspects of thermodynamics, information
8710	控制论及仿生学的有关方面)	theory, cybernetics, and bionics)
8715	分子生物物理学(3620 大分子和聚	molecular biophysics(3620 macromolecules and
	合物分子)	polymer molecules)
8715B	生物分子水平的结构、构型、构象	structure, configuration, conformation, and active
	和活性位点	sites at the biomolecular level
8715D	溶液的物理化学;凝聚态	physical chemistry of solutions; condensed states
	分子动力学、分子探针、分子模式	molecular dynamics, molecular probes, molecular
8715H	识别	pattern recognition
8715K	分子相互作用,电荷转移复合体	molecular interactions, charge transfer complexes
8715M	生物分子水平的辐射相互作用(包	interactions with radiations at the biomolecular
	括发光、电子顺磁共振和核磁共振)	level(inc.luminescence,EPR and NMR)
8715P	模拟反应	model reactions
8716	生物热学	biothermics
8720	膜生物物理学	membrane biophysics

8720C	界面的一般理论(包括实际模型)	general theory of interfaces (inc.practical models) natural and artificial membranes(inc. immobilized enzymes)
8720E	天然膜和人工膜(包括固化酶)	
8725	细胞生物物理学	cellular biophysics
8725B	生物能学(包括光合作用)	Bioenergetics (inc.photosynthesis)
8725D	膜的物理学	biological transport; cellular and subcellular transmembrane physics
8725F	亚细胞结构物理学	physics of subcellular structures
8728	生物电学	bioelectricity
8730	神经生理过程的生物物理学(知觉过程和语言除外)	biophysics of neurophysiological processes(exc. perception processes and speech)
8730C	可激发和不可激发生物系统的电话性	electrical activity for excitable and nonexcitable biosystems
8730E	外部和内部数据通信,神经传导和突触传递(包括神经肌肉传递和肌肉收缩)	external and internal data communications, nerve conduction and synaptic transmission (inc. neuromuscular transmission and muscular contraction)
8730G	记忆存储和记忆(生物物理和生物化学过程)	memory storage and memorization (biophysical and biochemical processes)
8732	生理光学、视觉	physiological optics, vision
8732C	眼的解剖学和光学	anatomy and optics of the eye
8732E	眼的生理学;神经结构和功能	physiology of the eye; nerve structure and function
8732J	眼的调制传递	eye modulation transfer
8732L	光探测;适应和判别	light detection; adaptation and discrimination
8732N	色探测;适应和判别	colour detection; adaptation and discrimination
8732Q	光探测与色探测标度	scales for light and colour detection
8732S	视觉心理物理学、视觉感受、双目视觉	psychophysics of vision, visual perception, binocular vision
8734	听觉	audition
8736	语言和生物通信(4370 语言通信)	speech and biocommunications (4370 speech communication)
8738	机械感受和化学感受(包括生物声的产生、检测和控制)	Mechano- and chemio-ceptions(inc.biosonic generation, detection and guidance)
8740	生物磁学(包括心磁图)	biomagnetism(inc.magnetocardiography)
8745	生物力学、生物流变学、生物流体力学	biomechanics, biorheology, biological fluid dynamics
8745B	组织和器官的力学性质	mechanical properties of tissues and organs
8745D	人体运动物理学	physics of body movements

8745F	体液流变学	rheology of body fluids
8745H	血流动力学、呼吸动力学	haemodynamics, pneumodynamics
8750	辐射生物效应(包括场效应)	biological effects of radiations (inc.effects of fields)
8750B	生物体系与辐射的相互作用	interactions of biosystems with radiations
8750C	生物声学(声和超声对生命物质的作用)	bioacoustics (sonic and ultra sonic effects on living matter)
8750E	生物光学(微波、光、激光和其它电磁波的作用)	Bio-optics (effects of microwaves, light, laser and other electromagnetic waves)
8750G	电离辐射(紫外、X 射线、 γ 射线、粒子辐射效应)	ionizing radiations (UV, X-ray, gamma-ray; particle radiation effects)
8760	场、辐射、放射性的医学和生物学应用、健康物理学(2880 核辐射及防护技术)	medical and biomedical uses of fields, radiations, and radioactivity; health physics (2880 nuclear radiation technology, including shielding)
8760B	声和超声辐射	sonic and ultrasonic radiation
8760D	电场和磁场(直流的和脉冲的)	electric and magnetic fields (dc and pulsed)
8760F	光和激光辐射(医用)(包括: 纤维光学、红外和紫外应用)	optical and laser radiation(medical uses)(inc.fibre optics,infrared and ultraviolet applications)
8760G	激光束、微波和其它电磁波(包括核磁共振;X 射线, γ 射线,见 8760J)	laser beams, microwaves, and other electromagnetic waves(inc.NMR; for X-rays and gamma-rays, see 8760J)
8760I	医学磁共振成像和核磁共振谱学(包括: 电子顺磁共振和核磁共振)	medical magnetic resonance imaging and spectroscopy(inc.EPR and NMR)
8760J	微粒辐射和放射性同位素(包括 X 射线和 γ 射线)	corpuscular radiation and radioisotopes (inc. X-rays and gamma-rays)
8760K	核医学,发射层析 X 射线照相法(包括: PET 和 SPECT)	nuclear medicine,emission tomography(inc.PET and SPECT)
8760L	医学和生物医学用放射性材料的制备	preparation of radioactive materials for medical and biomedical uses
8760M	辐射剂量学	radiation dosimetry
8760P	辐射防护(包括辐射监测)	radiation protection (inc. radiation monitoring)
8760R	放射性污染(8670 环境科学)	radioactive pollution(8670 environment al science)
8765	宇航生物物理学和医学物理学(加速度,失重和环境的影响)(8180 减重试验;94 80 宇航设备与技术,空间站研究)	aerospace biophysics and medical physics (effects of accelerations, weightlessness and environment) (8180 reduced gravity experiments, 9480 aerospace facilities and techniques; space research)
8770	生物医学工程	biomedical engineering

8770E	诊断方法和仪器(8760 场、辐射和 放射性在医学和生物医学中的应 用)	diagnostic methods and instrumentation(8760 medical and biomedical uses of fields, radiations and radioactivity)
8770F	电诊断学(包括: ECG, EEG, 电阻 抗成像及相关技术)	Electrodiagnostics (inc.ECG,EEG,electric impedance imaging and related techniques)
8770G	病人的护理与治疗	patient care and treatment
8770H	放射治疗(包括: 激光外科学)	radiation therapy(inc.laser surgery)
8770J	修复术和其它实际应用	prosthetics and other practical applications
8780	生物物理仪器和技术	biophysical instrumentation and techniques
8780B	生物传感器(生物医学方面, 参见 8770)	biosensors(for biomedical aspects ,see also 8770)
8783	纳米技术在生物医学方面的应用	nanotechnology applications in biomedicine
8790	生物物理学、医学物理学和生物医 学工程的其它论题	other topics in biophysics, medical physics, and biomedical engineering
9000	地球物理学、天文学和天体物理学	GEOPHYSICS, ASTRONOMY AND ASTROPHYSICS
9100	固体地球物理学	solid earth geophysics
9110	大地测量学与重力(重力观测与大 地构造和地壳均衡的关系,见 9145)	geodesy and gravity(for relations of gravity observations to tectonics and isostasy, see 9145 physics of plate tectonics)
9110B	数学大地测量学;一般理论	mathematical geodesy; general theory
9110D	地图制图学	cartography
9110J	地形测量学;几何图形观测	topography; geometrical observations
9110L	摄影测量学	photogrammetry
9110N	旋转变化;极摆动	rotational variations; polar wobble
9110Q	重力位势场的谐波	harmonics of the gravity potential field
9110T	地潮	earth tides
9125	地磁学和古地磁学;地电学	geomagnetism and palaeomagnetism; geoelectricity
9125C	地磁场起源及模型; 动力理论	origins and models of the magnetic field; dynamotheories
9125E	外源与内特性间的相互作用(大地 电磁效应)	interactions between exterior sources and interior properties (magnetotelluric effects)
9125G	空间变化;谐波与异常	spatial variations; all harmonics and anomalies
9125J	海底扩展引起的空间变化	spatial variations attributed to sea floor spreading
9125L	时间变化;昼夜变化以至长期变化	time variations; diurnal to secular
9125N	古地磁学	palaeomagnetism

9125Q	地电学;电磁感应与传导率	earth's electricity; electromagnetic induction and conductivity
9130	地震学	seismology
9130B	震源(机理,震级,瞬时频谱)	seismic sources (mechanisms, magnitude, moment and frequency spectrum)
9130D	地震,空间和时间分布(包括强烈运动 和冲击波)	seismicity, space and time distribution(inc.strong motion and shock waves)
9130F	表面波与体波	surface and body waves
9130K	自由振荡(周期小于 12 小时)	free oscillations (periods less than 12 hours)
9130M	强运动与冲击波	strong motions and shock waves
9130N	海啸	tsunamis(9210)
9130P	与地震预测有关的现象	phenomena related to earthquake prediction
9130R	爆炸地震学	explosion seismology
9135	地球内部	earth interior
9135C	内部结构模型	models of interior structure
9135D	热流;地热学	heat flow; geothermy
9135E	上地幔以下的地球内部结构	structure of the earth's interior below the upper mantle
9135G	地壳结构与上地幔结构	structure of the crust and upper mantle
9135L	地球内部成分	composition of the earth's interior
9135N	地质年代学	geochronology
9140	火山学	volcanology
9145	板块构造物理学	physics of plate tectonics
9145B	次板块大地构造学(断层, 折叠, 裂 缝等)	sub-plate scale tectonics (faults, folds, rifts, etc.)
9145D	板块构造	plate tectonics
9145F	对流流	convection currents
9145P	慢垂直地壳运动(包括地壳均衡与 冰后现象)	slow vertical crustal movements(inc.isostasy and postglacial phenomena)
9145S	重力观测与大地构造和地壳均衡的 关系	relations of gravity observations to tectonics and isostasy
9150	海洋地质学与地球物理学	marine geology and geophysics
9150C	海滩、海岸与大陆架过程	beach, coastal and shelf processes
9150E	海底过程	ocean bottom processes
9150G	深海测量和非海岸水下地貌	bathymetry and noncoastal underwater morphology
9150J	浊流,沉积	turbidity currents; sedimentation
9160	岩石、矿物和土壤的物理特性	physical properties of rocks, minerals and soil
9160B	弹性,断裂与流动	elasticity, fracture and flow

9160F	状态方程	equations of state
9160H	相变	phase changes
9160K	热特性	thermal properties
9160P	磁特性和电特性	magnetic and electric properties
9160W	岩石、矿物和土壤的其它性质	other properties of rocks,minerals and soil
	地质学、矿物学和岩石学的地球物理学方面	geophysical aspects of geology, mineralogy and petrology
9165	理学方面	petrology
9190	固体地球物理学的其它论题	other topics in solid earth geophysics
	水圈与低层大气圈的地球物理学	
9200	(海洋地质学和地球物理学,见 9150)	Hydrospheric and lower atmospheric physics
9210	海洋物理学(4330 水声学)	physics of the oceans (4330 underwater sound)
9210B	海水的物理特性	physical properties of seawater
9210D	深海动力学	dynamics of the deep ocean
9210F	浅海动力学	dynamics of the upper ocean
9210H	表面波、潮汐和海平面	surface waves, tides, and sea level
9210J	假潮	seiches
9210K	海洋-空气能交换过程	Sea-air energy exchange processes
9210L	湍流与扩散	turbulence, and diffusion
9210M	温盐结构与环流	thermohaline structure and circulation
9210P	水下光和辐射能	underwater light and radiation energy
9210R	海冰	sea ice
9210S	海岸与河口海洋学	coastal and estuarine oceanography
9210V	水声学(参见 4330 水声学)	underwater sound(4330 underwater sound)
9210X	古海洋学	Palaeo-oceanography
9220	海洋学交叉学科	interdisciplinary aspects of oceanography
9220C	海洋化学	chemistry of the ocean
9220G	海洋能提取	ocean energy extraction
9220J	海洋生物学	biological aspects of oceanography
9220N	海洋污染	marine pollution
9240	水文学与冰川学	hydrology and glaciology
9240C	建模:一般理论	modelling; general theory
9240E	降水	precipitation
9240F	河流、径流与流量	rivers, runoff, and streamflow
9240G	侵蚀与沉积	erosion and sedimentation
9240J	蒸发	evaporation
9240K	地下水	groundwater
9240L	土壤湿度	soil moisture
9240N	湖沼学	limnology
9240Q	水质与水资源	water quality and water resources
9240R	雪	snow

9240S	冰	ice
9240V	冰川	glaciers
9260	气象学: 低层大气(4328 航空声学 和大气声学)	meteorology: lower atmospheric aeroacoustics and atmospheric sound) (4328)
9260B	大气环流	general circulation
9260D	重力波、潮汐和压缩波	gravity waves, tides, and compressional waves
9260E	对流,湍流与扩散	convection, turbulence, and diffusion
9260F	边界层结构与过程	boundary layer structure and processes
9260G	风及其作用	winds and their effects
9260H	化学成分和化学相互作用	chemical composition and chemical interactions
9260J	大气中的水(湿度、云、蒸气和降水)	water in the atmosphere (humidity, clouds, evaporation, precipitation)
9260L	离子相互作用和过程	ionic interactions and processes
9260M	粒子与气溶胶(9420 电离层物理 学)	particles and aerosols (9420 physics of the ionosphere)
9260N	云物理学	cloud physics
9260P	大气电学	atmospheric electricity
9260Q	风暴	storms
9260S	气候学	climatology
9260T	空气品质与空气污染	air quality and air pollution
9260V	大气与电磁波的相互作用;传播	interaction of atmosphere with electromagnetic waves; propagation
9260W	太阳辐射	solar radiation
9260X	天气分析与天气预报	weather analysis and prediction
9260Y	气象应用	meteorological applications
9260Z	古大气层	Palaeo-atmosphere
9265	大气光学(4200 光学)	atmospheric optics(4200 optics)
9265D	大气传播:衰减,吸收,辐射传输	propagation through the atmosphere, attenuation,absorption and radiation transfer
9265H	光谱能量分布、光谱吸收	spectral energy distribution, spectral absorption
9265M	散射、偏振	scattering, polarization
9265R	激光束传播	laser beam propagation
9265S	图象传输与成象	image transmission and formation
9265T	调制传递	modulation transfer
9265V	云、雾、霾、气溶胶;空气污染的影 响	clouds, fog, haze, aerosols; effects of air pollution
9290	水圈和大气圈的地球物理学的其它 论题	other topics in hydrospheric and atmospheric geophysics
9300	地球物理观测、设备及技术	geophysical observations, instrumentation, and techniques

9330	地理区划资料	information related to geographical regions
9330B	非洲	Africa
9330C	南极洲	Antarctica
9330D	亚洲	Asia
9330F	澳洲	Australia
9330G	欧洲	Europe
9330H	北美洲	North America
9330J	南美洲	South America
9330K	大岛屿(如格陵兰岛)	large islands (e.g. Greenland)
9330L	北冰洋	Arctic ocean
9330M	大西洋	Atlantic ocean
9330N	印度洋	Indian ocean
9330P	太平洋	Pacific ocean
9330Q	南大洋	Southern ocean
9330R	地区海	regional seas
9330S	极区	polar regions
9330T	温带	temperate regions
9330V	热带	tropical regions
9355	国际机构,国家和国际计划	international organizations, national and international programs
9365	数据收集与存贮	data acquisition and storage
9385	地球物理研究的设备与技术 高层大气物理学、空间物理学和宇宙线	instrumentation and techniques for geophysical research
9400	宇宙线	aeronomy, space physics and cosmic rays
9410	中性大气物理学(行星,见 9630)	physics of the neutral atmosphere(for planets, see 9630)
9410B	高空大气的一般特性	general properties of the high atmosphere
9410D	大气结构、大气压力、密度与温度 (平流层,中层,热层和外逸层)	atmospheric structure, pressure, density and temperature (stratosphere, mesosphere, thermosphere exosphere)
9410F	大气成分(原子或分子)化学反应和化学过程	atmospheric composition (atomic or molecular), chemical reactions and processes
9410G	辐射吸收与散射	absorption and scattering of radiation
9410H	粒子或波的大气反照率	atmospheric albedo to particles or waves
9410J	潮汐、波和风	tides, waves, and winds
9410L	对流、扩散、混合、湍流和沉降	convection, diffusion, mixing, turbulence, and fallout
9410N	宇宙尘	cosmic dust
9410Q	气辉与夜辉	airglow and nightglow
9410S	极光	aurora

9420	电离层物理学(行星,见 9630)	physics of the ionosphere(for planets, see 9630)
9420B	波传播	wave propagation
	电离层结构(D,E,F 和顶边区域)包	ionospheric structure (D, E, F, and topside
9420D	括稳态离子密度和温度	regions) inc. steady-state ion densities and
9420E	D 区	temperatures
9420G	E 区	D-region
9420J	F 区	E-region
9420L	顶外电离层区域	F-region
9420M	等离子体层	topside region
9420P	等离子体层顶	plasmasphere
9420Q	粒子沉降	plasmopause
9420R	波与粒子间的相互作用	particle precipitation
9420S	电场	interactions between waves and particles
9420T	等离子体运动,对流或环流	electric fields
9420V	电离层扰动	plasma motion, convection, or circulation
		ionospheric disturbances
		interaction between ionosphere and
9420W	电离层与磁层间的相互作用	magnetosphere
9420Z	电离层探测	ionospheric soundings
		physics of the magnetosphere(for planets, see
9430	磁层物理学(行星,见 9630)	9630)
9430B	磁坐标系	magnetic coordinate systems
9430C	磁层位形	magnetospheric configuration
9430D	磁层顶	magnetopause
9430E	磁尾	magnetic tail
9430F	等离子体运动,对流或环流	plasma motion, convection, or circulation
9430G	等离子体不稳定性	plasma instabilities
9430H	俘获粒子	trapped particles
9430K	电场	electric fields
9430L	磁暴与亚磁暴	magnetic storms, substorms
9430M	磁脉动	magnetic pulsations
9430N	静电波	electrostatic waves
9430P	波传播	wave propagation
9430Q	极低频和超低频波(包括哨声)	ELF and ULF waves(inc.whistlers)
9430R	甚低频波	VLF waves
9430S	磁屏蔽	magnetosheath
		interaction between solar wind and
9430V	太阳风与磁层的相互作用	magnetosphere
		interactions between magnetosphere and cosmic
9430W	磁层与宇宙射线的相互作用	rays
9440	宇宙线	cosmic rays

9440C	太阳系外的起源和传播	origin and propagation outside the solar system
9440E	行星际传播和效应	interplanetary propagation and effects
9440H	高能太阳粒子和光子	energetic solar particles and photons
9440K	太阳调制与地球物理效应	solar modulation and geophysical effects
9440L	宇宙线成分和能谱	composition and energy spectra
9440N	广延大气簇射	extensive air showers
9440R	高能相互作用	High-energy interactions
9440T	μ 子和中微子	muons and neutrinos
9440V	陨石和地面物质中的宇宙线效应	Cosmic-ray effects in meteorites and terrestrial matter
9460	行星际空间(9660 太阳物理学)	interplanetary space(9660 solar physics)
9460D	太阳风磁场	solar wind magnetic fields
9460F	太阳风电场	solar wind electric fields
9460G	太阳风等离子体	solar wind plasma
9460K	行星际中性气体	interplanetary neutral gases
9460M	行星际尘埃微粒	interplanetary dust particles
9460Q	太阳风与月球、行星间的相互作用	solar wind interactions with moon and planets
9460R	激波	shock waves
9460S	电磁辐射	electromagnetic radiation
9460V	外日光层和星际相互作用(包括日球顶)	outer heliosphere and interstellar interaction (inc.heliopause)
	宇航设备与技术;空间研究(8180)	aerospace facilities and techniques; space research(8180)
9480	医学物理学)	reduced gravity experiments,8765 aerospace biophysics and medical physics)
9480P	月球与行星探测器、卫星	lunar and planetary probes and satellites
9480R	人造地球卫星	artificial earth satellites
9480V	地球物理设备	geophysical instrumentation
9480W	天体物理设备	astrophysical instrumentation
9490	超高层气流物理学、空间物理学和宇宙线的其它论题	other topics in aeronomy, space physics and cosmic says
	基础天文学和天体物理学、设备、	fundamental astronomy and astrophysics, instrumentation and techniques and astronomical
9500	技术以及天文观测	observations
9510	基础天文学	fundamental astronomy
9510C	天体力学(恒星系统的动力学和运动学,见 9810)	celestial mechanics(for dynamics and kinematics of stellar systems, see 9810)
9510E	轨道的测定与改进	orbit determination and improvement
9510G	交食、中天和掩星	eclipses, transits and occultations
9510J	天体测量和球面天文学	astrometry and spherical astronomy
9530	天体物理学基础	fundamental aspects of astrophysics
9530C	基本粒子和核子反应	elementary particle and nuclear processes

9530E	原子与分子过程及其相互作用	atomic and molecular processes and in teractions
9530G	辐射机理	radiation mechanisms
9530J	辐射传输	radiative transfer
9530L	流体动力学	hydrodynamics
9530Q	磁流体动力学与等离子体	hydromagnetics and plasmas
9530S	相对论与万有引力(9880 相对论宇宙学)	relativity and gravitation (9880 relativistic cosmology)
9545	天文台	observatories
9555	天文仪器	astronomical instruments
9555B	天体测量仪器	astrometric instruments
9555C	光学望远镜	optical telescopes
9555E	太阳仪器	solar instruments
9555J	射电望远镜	radiotelescopes
9555K	X 射线和 γ 射线望远镜	X-ray and gamma-ray telescopes
9555L	航空航天仪器(空间技术,见 9480)	aerospace instruments(for space technology, see 9480)
9555P	外空探测器	Deep-space probes
9555S	天文学的辅助和记录仪器	auxiliary and recording instruments in astronomy
	其他天文和空间研究仪器(包括: 引力仪器)(宇宙线装置用 9480)	other astronomical and space research instrumentation (inc.gravitation)(for cosmic ray apparatus,use 9480)
9555W	力仪器)(宇宙线装置用 9480)	
9565	辅助与记录仪器	auxiliary and recording instruments
	其它设备与技术(包括时标和频率标准)	other instrumentation and techniques(inc.clocks, frequency standards)
9570	标准)	
9575	观测与归算技术	techniques of observation and reduction
		astronomical photographic and electronic imaging,and photometry
9575D	天文照相和电子成象及光度学	
9575F	光谱学与光谱测量	spectroscopy and spectrometry
9575H	天体测偏振术	astronomical polarimetry
9575K	干涉量度学与其它特殊技术	interferometry and other special techniques
9575M	天文数据和图象处理	astronomical data and image processing
		mathematical and computer techniques in astronomy
9575P	天文学中的数学和计算机技术	
9575S	其它天文技术	other astronomical techniques
9580	天文观测	astronomical observations
9580D	无线电与雷达	radio and radar
9580E	亚毫米天文观测	Sub-millimetre astronomical observations
9580G	远红外(热辐射、光电导)	far infrared (bolometric, photoconductive)
	照相范围(近红外、可见光和普通紫外)	photographic region (near infrared, visible, and normal ultraviolet)
9580J	外线)	

9580M	空间紫外线	space ultraviolet
9580N	X 射线	X-ray
9580Q	γ 射线和基本粒子	Gamma-ray and elementary particle
9580S	其它观测技术(包括引力辐射,磁力图等)	other (inc.gravitational radiation, magnetograms, etc)
9585	星表、星图	catalogues, atlases etc
9590	天文学及天体物理学的其它论题	other topics in astronomy and astrophysics
9600	太阳系	solar system
9610	一般问题、太阳星云和天体演化	general, solar nebula, and cosmogony
9620	月球	moon
9620B	起源、形成和年代	origin, formation, and age
9620D	特征、陆标、矿物学、岩石学和大气层	features, landmarks, mineralogy, petrology and atmosphere
9620J	引力场、月面测量学、磁场	gravitational field, selenodesy, magnetic fields
	行星和卫星(月球除外)(天体力学,见 9510;地球作为天体时,见 9100 地球物理学)	planets and satellites(exc. the moon,for celestial mechanics, see 9510; for earth as an astronomical body, see 9100 geophysics)
9630D	水星	Mercury
9630E	金星	Venus
9630G	火星	Mars
9630H	小行星	asteroids
9630K	木星	Jupiter
9630M	土星	Saturn
9630P	天王星和卫星	Uranus and satellites
9630Q	海王星和卫星	Neptune and satellites
9630R	冥王星和卫星	Pluto and satellites
9630T	其它行星	other planets
9630W	行星环	planetary rings
9635	行星和卫星的特征和性质	planetary and satellite characteristics and properties
9635B	行星起源演化和年龄	planetary origin, evolution, and ages
9635E	行星化学成分	planetary chemical composition
9635F	行星质量, 体积; 引力场; 转动; 轨道	planetary masses, sizes; gravitational fields; rotation; orbits
9635G	行星表面和形貌学; 大地构造学	planetary surfaces and topography; tectonics
9635H	行星中性大气层	planetary neutral atmospheres
9635K	行星电离层; 磁层	planetary ionospheres; magnetospheres
9635M	行星内部	planetary interiors
9635P	行星电磁场	planetary electric and magnetic fields
9650	行星系中的其它物体	other objects in the planetary system

	行星际物质、磁场和电场(包括对日	interplanetary matter, magnetic and electric fields(inc.gegenschein and zodiacal light,9460
9650D	照光和黄道光)(9460 行星际空间)	interplanetary space)
9650G	彗星	comets
9650K	流星、流星雨和流星体	meteors, showers and meteoroids
9650M	陨星、微陨石	meteorites, micrometeorites
9660	太阳物理学	solar physics
9660C	一般问题、形状、自转	general, figure, rotation
9660F	化学成分	chemical composition
9660H	太阳电磁场	solar magnetic and electric fields
9660K	太阳内部(包括中微子问题)	solar interior(inc.neutrino problem)
9660L	太阳振荡和波	solar oscillations and waves
9660M	光球、颗粒组织	photosphere, granulation
		chromosphere and chromosphere-corona
9660N	色球和色球-日冕转变	transition
9660P	日冕	corona
9660Q	太阳黑子、光斑、谱斑	sunspots, faculae, plages
9660R	耀斑、爆发和有关现象	flares, bursts, and related phenomena
9660S	日珥和北极光	prominences, and streamers
	太阳电磁辐射和频谱(地球物理效	solar electromagnetic radiation and spectra (for
9660T	应见 9260,9420 和 9430)	geophysical effects, see 9260, 9420, and 9430)
	粒子辐射,太阳风(9460 行星际空	particle radiation, solar wind (9460 interplanetary
9660V	间)	space)
9690	太阳系的其它论题	other topics on the solar system
9700	恒星	stars
9710	恒星的特征	stellar characteristics
9710B	恒星形成	star formation
	恒星内部、演化、核心生成、年代、	stellar interiors, evolution, nucleosynthesis, ages,
9710C	不透明度	opacity
9710E	恒星大气层、辐射传输	stellar atmospheres, radiative transfer
9710F	拱星壳和膨胀包层	circumstellar shells and expanding envelopes
9710H	质量亏损和恒星风;吸积	mass loss and stellar winds; accretion
9710K	恒星自转	stellar rotation
9710L	磁场与电场;转动	magnetic and electric fields, rotation
9710N	质量	masses
9710Q	直径和表面特征;振荡	diameters and surface features; oscillations
9710R	光度、温度	luminosities, temperatures
9710T	光谱分类、丰度	spectral classification, abundances
9710V	距离、视差	distances, parallaxes
9710W	空间运动(自行、径向速度)	space motions (proper motions, radial velocities)

	正常恒星(按等级分):一般的或单独的恒星	normal stars (by class): general or individual
9720D	前主星序型(T Tauri)	Pre-main-sequence types (T Tauri)
9720E	主星序:早型星(O 和 B)	Main-sequence: early-type stars (O and B)
9720G	主星序:中期型(A 和 F)星	Main-sequence: intermediate type A and F stars
9720J	主星序:晚期型星(G,K 和 M)	Main-sequence: late-type stars (G, K, and M)
9720L	巨星和亚巨星	giant and subgiant stars
9720P	超巨星	supergiant stars
9720R	星云核	nuclei of planetary nebulae
9720T	星族 II 号星	population II stars
9720V	棕矮星	brown dwarfs
9730	变星和特异星(包括新星)	variable and peculiar stars(inc.novae)
9730D	β 造父变星(β 大犬星座)	beta cephei (beta canis majoris) stars
9730E	发射线星(of,沃尔夫-拉叶,Be,等)	Emission-line stars (of, Wolf -Rayet, Be, etc)
9730F	磁星	magnetic stars
9730G	δ 造父变星、室女 W 型星、RV 型星和金牛和盾牌 δ 型星	delta cephei, W virginis, RV tauri and delta scuti stars
9730H	S.R 或 N 类型星和有关星体	S, R and N types and related stars
9730J	长周期变星和半规则变星	Long-period variables (MIRAS) and semi-regulars
9730K	天琴 RR 星	RR lyrae stars
9730N	耀星	flare stars
9730Q	新星、矮新星	novae, dwarf novae
9730S	其他类型的变星	other types of variables
9760	恒星演化的晚期(包括黑洞)	late stages of stellar evolution (inc.black holes)
9760B	超新星	supernovae
9760G	脉冲星	pulsars
9760J	中子星	neutron stars
9760L	黑洞	black holes
9760S	正在分裂或崩溃的其他星体	other objects believed to be disintegrating or collapsing
9780	双星和聚星(包括太阳系外行星系)	binary and multiple stars(inc.extrasolar planetary systems)
9780D	目视双星或光学双星	visual binaries and optical doubles
9780F	分光双星	spectroscopic binaries
9780H	食双星(9870Q X 射线源和 γ 射线源)	eclipsing binaries(9870Q X-ray and gamma-ray sources)

	X-射线双星(9870Q X射线和 γ 射线源)	X-ray binaries(9870Q X-ray and gamma-ray sources)
9780J	源)	
9780K	聚星	multiple stars
9780M	行星系	planetary systems
9790	恒星天文学的其它论题	other topics in stellar astronomy
	恒星系;银河系和河外星体和星系;	stellar systems; galactic and extragalactic objects
9800	宇宙	and systems; the universe
9810	恒星动力学	stellar dynamics
9820	星团和星协	stellar clusters and associations
9820C	星协(OB,T,等)	associations of stars (OB, T, etc)
9820E	疏散星团	open clusters
9820G	球状星团	globular clusters
9840	恒星际物质和星云	interstellar matter,and nebulae
	恒星际物质(宇宙尘埃、磁场和电	interstellar matter(inc.cosmic dust, magnetic and
9840B	场)	electric fields)
9840C	恒星际分子	interstellar molecules
		H I regions (interstellar clouds and 21-cm
9840F	H I 区(星际云和 21cm 吸收线)	absorption lines)
9840H	H II 区,发射星云	H II regions, emission nebulae
	红外源(包括茧状物)(9870L 其它辐	infrared sources (inc.cocoons)(9870L for other
9840J	射源)	sources)
9840K	反射星云,暗星云	reflection nebulae, dark clouds
9840L	恒星形成区(包括: 双极射流)	Star-forming regions (inc. bipolar outflows)
9840M	行星状星云	planetary nebulae
9840N	超新星遗迹	supernova remnants
9850	银河系、河外星和星系	the galaxy, extragalactic objects and systems
9850B	星系的起源、演化和年龄	origin, evolution, and ages of galaxies
9850C	一般参数、分类等	general parameters, classifications, etc
9850D	星系的运动学、动力学和转动	kinematics, dynamics, and rotation of galaxies
9850E	形成、结构、成分、演变	formation, structure, content, evolution
9850F	星系质量	masses of galaxies
9850G	星系的辐射和光谱	radiation and spectra of galaxies
9850H	红移、距离	red shift, distances
9850K	星群、星团、超星团	groups, clusters, superclusters
9850L	银河系;银河	the galaxy; milky way
	本星系群(本星系群中的不规则的、	local group galaxies (irregular, spiral and elliptical
9850M	螺形的和椭圆形的星系,麦哲伦云)	galaxies in local group, Magellanic clouds)
	特异星系(致密核、塞费特星系、马	peculiar galaxies (compact nuclei, Seyferts,
9850R	克卡尔安星系、蝎虎星座等)	Markarian objects, BL lacertae, etc.)

9850S	射电星系	radiogalaxies
9850T	星系际物质和星团间物质(包括磁场和电场)	intergalactic and intracluster matter(incl.magnetic and electric fields)
	不明起源和距离的其它物体和背景	other objects and background radiations of unknown origin and distances (for pulsars, see 9760G)
9870	辐射(脉冲星,见 9760G)	9760G)
9870D	不连续射电源	discrete radio sources
9870J	类星体	quasars
9870L	红外源(9840 星云中的红外源)	IR sources (9840 in nebulae)
9870N	宇宙紫外线源	cosmic UV sources
9870Q	X 射线源和 γ 射线源	X-ray and gamma-ray sources
9870R	宇宙 γ 射线源	cosmic gamma-ray sources
9870S	宇宙射线源(宇宙线,见 9440)	cosmic ray sources(for cosmic rays, see 9440)
9870V	背景辐射	background radiations
	宇宙学(银河系的起源和演变,见 9850)	cosmology(for origin and evolution of galaxy, see 9850)
9880	宇宙的起源和形成(大爆炸,稳恒态等理论)	origin and formation of the universe (big bang, steady state, etc)
9880B	相对宇宙学	relativistic cosmology
9880D	元素的起源和形成	origin and formation of the elements
9880F	观测宇宙学	observational cosmology
9880L		other topics in galactic and extra galactic astronomy
9890	银河系和河外系天文学的其它论题	astronomy