GUIDELINES FOR PRE SECTION SELECTION
(Revised December 2005)

Sections are listed below, together with topics and PACS numbers. The first, or principal, PACS number chosen for an article should correspond to the appropriate section and should be selected from those indicated in the section scheme below. Note that the more specific codes, indicating a finer level of detail, supersede the general category codes. A PACS code with a minus sign is a more general category (e.g., 05.30.-d); more specific PACS codes are listed with two letters (e.g., 05.30.Ch, 05.30.Jp, 05.30.Pr). This listing of PACS numbers is not complete, for not all of the more specific PACS codes are listed. An asterisk (*) after a PACS number refers to all categories following the decimal point. Complete PACS listings may be accessed electronically at `http://publish.aps.org/PACS/`.

Part 1: Soft Matter and Biological Physics

1. Statistical physics of soft matter

05.20.-y	Classical statistical mechanics
05.40.-a	Fluctuation phenomena, random processes, noise, and Brownian motion
05.60.Cd	Classical transport
46.65.+g	Random phenomena and media
64.10.+h	General theory of equations of state and phase equilibria
78.60.Ps	Chemiluminescence
82.20.-w	Chemical kinetics and dynamics
82.30.-b	Specific chemical reactions; reaction mechanisms
82.33.Tb	Atmospheric chemistry
82.50.-m	Photochemistry
82.60.-s	Chemical thermodynamics (except 82.60.Nh)

2. Equilibrium and linear transport properties of fluids

44.05.+e	Analytical and numerical techniques (heat transfer)
44.10.+i	Heat conduction
44.15.+a	Channel and internal heat flow
44.40.+a	Thermal radiation
44.90.+c	Other topics in heat transfer
47.35.-i	Hydrodynamic waves
47.45.-n	Rarefied gas dynamics
51.10.+y	Kinetic and transport theory of gases
51.20.+d	Viscosity, diffusion, and thermal conductivity (gases)
51.30.+i	Thermodynamic properties, equations of state (gases)
51.35.+a	Mechanical properties; compressibility (gases)
51.40.+p	Acoustical properties (gases)
51.90.+r	Other topics in the physics of gases
61.20.-p	Structure of liquids
65.20.+w	Thermal properties of liquids: heat capacity, thermal expansion, etc.
66.10.-x	Diffusion and ionic conduction in liquids
66.20.+d	Viscosity of liquids; diffusive momentum transport
66.60.+a	Thermal conduction in nonmetallic liquids

3. Granular materials

45.05.+x General theory of classical mechanics of discrete systems
45.70.-n Granular systems
81.05.Rm Porous materials; granular materials
83.80.Fg Granular solids (rheology)

4. Colloidal dispersions, suspensions, and aggregates

61.43.Hv Fractals; macroscopic aggregates (including diffusion-limited aggregates)
82.33.Ln Reactions in sol gels, aerogels, porous media
82.70.-y Disperse systems; complex fluids
83.80.Hj Suspensions, dispersions, pastes, slurries, colloids (rheology)
83.80.Iz Emulsions and foams (rheology)
83.80.Kn Physical gels and microgels (rheology)

5. Structured and complex fluids

46.35.+z Viscoelasticity, plasticity, viscoplasticity
61.* (fluids only)
62.* (fluids only)
64.70.Dv Solid-liquid transitions
64.70.Fx Liquid-vapor transitions
64.70.Ja Liquid-liquid transitions
64.70.Pf Glass transitions
64.75.+g Solubility, segregation, and mixing; phase separation
78.55.Bq Liquids (photoluminescence)
82.45.-h Electrochemistry and electrophoresis
83.10.-y Fundamentals and theoretical (rheology)
83.50.-v Deformation; material flow (rheology)
83.80.Gv Electro- and magnetorheological fluids
83.80.Qr Surfactant and micellar systems, associated polymers
83.85.-c Techniques and apparatus (rheology)

6. Films, interfaces, and crystal growth

64.60.Qb Nucleation
68.03.-g Gas-liquid and vacuum-liquid interfaces
68.05.-n Liquid-liquid interfaces
68.08.-p Liquid-solid interfaces
68.15.+e Liquid thin films
68.18.-g Langmuir-Blodgett films on liquids
68.37.-d Microscopy of surfaces, interfaces, and thin films
68.43.-h Chemisorption/physisorption: adsorbates on surfaces
68.47.Pe Langmuir-Blodgett films on solids, polymers on surfaces, biological molecules on surfaces
68.70.+w Whiskers and dendrites (growth, structure, and nonelectronic properties)
81.10.-h Methods of crystal growth; physics of crystal growth
81.15.Aa Theory and models of film growth
81.15.Lm Liquid phase epitaxy; deposition from liquid phases (melts, solutions, and surface layers on liquids)
82.60.Nh Thermodynamics of nucleation
82.65.+r Surface and interface chemistry; heterogeneous catalysts at surfaces

7. Liquid crystals

42.70.Df Liquid crystals (optical materials)
61.30.-v Liquid crystals
64.70.Md Transitions in liquid crystals
77.84.Nh Liquids, emulsions, and suspensions; liquid crystals
83.80.Xz Liquid crystals: nematic, cholesteric, smectic, discotic, etc. (rheology)

8. Polymers

36.20.-r Macromolecules and polymer molecules
61.25.Hq Macromolecular and polymer solutions; polymer melts; swelling
61.41.+e Polymers, elastomers, and plastics
61.82.Pv Polymers, organic compounds (radiation effects)
73.61.Ph Polymers, organic compounds (electrical properties of thin films)
78.30.Jw Organic compounds, polymers (infrared and Raman spectra)
78.40.Me Organic compounds and polymers (visible and ultraviolet absorption and reflection spectra)
82.35.-x Polymers: properties; reactions; polymerization
83.80.Rs Polymer solutions (rheology)
83.80.Sg Polymer melts (rheology)
83.80.Tc Polymer blends (rheology)
83.80.Uv Block copolymers (rheology)

9. Biological physics

42.66.-p Physiological optics
43.64.+r Physiological acoustics
43.70.+i Speech production
43.71.+m Speech perception
43.80.+p Bioacoustics
47.63.mh Transport processes and drug delivery
82.37.Rs Single molecule manipulation of proteins and other biological molecules
82.39.-k Chemical kinetics in biological systems
82.53.Ps Femtosecond probing of biological molecules
82.56.Pp NMR of biomolecules
83.80.Lz Physiological materials (e.g., blood, collagen, etc.)
87.10.+e General theory and mathematical aspects
87.14.-g Biomolecules: types
87.15.-v Biomolecules: structure and physical properties
87.16.-b Subcellular structure and processes
87.17.-d Cellular structure and processes
87.18.-h Multicellular phenomena
87.19.-j Properties of higher organisms
87.23.-n Ecology and evolution
87.50.-a Effects of radiation and external fields on biomolecules, cells and higher organisms
87.57.-s Medical imaging: general
87.58.-b Nuclear medicine imaging, dosimetry, labeling, metabolic studies
87.59.-e X-ray imaging
87.61.-c Magnetic resonance imaging
87.64.-t Spectroscopic and microscopic techniques in biophysics and medical physics
87.68.+z Biomaterials and biological interfaces
87.80.-y Biological techniques and instrumentation; biomedical engineering
87.83.+a Biomedical applications of nanotechnology
87.90.+y Other topics in biological and medical physics

Part 2: Statistical and Nonlinear Physics, Fluid Dynamics, and Related Topics

10. General methods of statistical physics

02.50.-r	Probability theory, stochastic processes, and statistics
05.30.-d	Quantum statistical mechanics
05.50.+q	Lattice theory and statistics (Ising, Potts, etc.)
05.60.Gg	Quantum transport
05.65.+b	Self-organized systems
05.70.-a	Thermodynamics
05.90.+m	Other topics in statistical physics, thermodynamics, and nonlinear dynamical systems
46.50.+a	Fracture mechanics, fatigue, and cracks (continuum mechanics of solids)
62.20.Mk	Fatigue, brittleness, fracture, and cracks (mechanical properties of solids)
64.60.-i	General studies of phase transitions (except 64.60.Qb)
81.40.Pq	Friction, lubrication, and wear
82.40.Ck	Pattern formation in reactions with diffusion, flow, and heat transfer
84.35.+i	Neural networks (electronics)
89.40.-a	Transportation
89.65.-s	Social and economic systems
89.75.Da	Systems obeying scaling laws
89.75.Fb	Structures and organization in complex systems
89.75.Hc	Networks and genealogical trees
89.90.+n	Other topics of general interest to physicists

11. Chaos and pattern formation

05.45.-a	Nonlinear dynamics and chaos
82.40.Bj	Oscillations, chaos, and bifurcations
89.75.Kd	Patterns (complex systems)

12. Fluid dynamics

44.20.+b	Boundary layer heat flow
44.25.+f	Natural convection
44.27.+g	Forced convection
44.30.+v	Heat flow in porous media
47.10.-g	General theory in fluid dynamics
47.15.-x	Laminar flows
47.20.-k	Flow instabilities
47.27.-i	Turbulent flows
47.32.-y	Vortex dynamics; rotating fluids
47.40.-x	Compressible flows; shock waves
47.50.-d	Non-Newtonian fluid flows
47.51.+a	Mixing
47.52.+j	Chaos in fluid dynamics
47.53.+n	Fractals in fluid dynamics
47.54.-r	Pattern selection; pattern formation (fluid dynamics)
47.55.-t	Multiphase and stratified flows
47.56.+r	Flows through porous media
47.57.-s	Complex fluids and colloidal systems
47.60.+i	Flows in ducts, channels, nozzles, and conduits

47.61.-k Micro- and nano- scale flow phenomena
47.63.-b Biological fluid dynamics (except 47.63.mh)
47.65.+a Magnetohydrodynamics and electrohydrodynamics (fluid dynamics)
47.70.-n Reactive and radiative flows
47.75.+f Relativistic fluid dynamics
47.90.+a Other topics in fluid dynamics
78.60.Mq Sonoluminescence, triboluminescence

13. Plasma physics

51.50.+v Electrical properties (ionization, breakdown, electron and ion mobility, etc.) (gases)
51.60.+a Magnetic properties (gases)
51.70.+f Optical and dielectric properties (gases)
52.20.-j Elementary processes in plasma
52.25.-b Plasma properties
52.27.-h Basic studies of specific kinds of plasmas
52.30.-q Plasma dynamics and flow
52.35.-g Waves, oscillations, and instabilities in plasmas and intense beams
52.38.-r Laser-plasma interactions
52.40.-w Plasma interactions (nonlaser)
52.50.-b Plasma production and heating
52.55.-s Magnetic confinement and equilibrium
52.57.-z Laser inertial confinement
52.58.-c Other confinement methods
52.65.-y Plasma simulation
52.70.-m Plasma diagnostic techniques and instrumentation
52.72.+v Laboratory studies of space- and astrophysical-plasma processes
52.75.-d Plasma devices
52.80.-s Electric discharges
52.90.+z Other topics in physics of plasmas and electric discharges
95.30.Qd Magnetohydrodynamics and plasmas

14. Physics of beams

07.77.-n Atomic, molecular, and charged-particle sources and detectors
29.17.+w Electrostatic, collective, and linear accelerators
29.20.-c Cyclic accelerators and storage rings
29.25.-t Particle sources and targets
29.27.-a Beams in particle accelerators
41.60.-m Radiation by moving charges
41.75.-i Charged-particle beams
41.85.-p Beam optics
41.90.+e Other topics in electromagnetism; electron and ion optics
52.59.-f Intense particle beams and radiation sources
84.40.Ik Masers; gyrotrons (cyclotron-resonance masers)

15. Classical physics, including nonlinear media and photonic materials

03.50.-z Classical field theories
05.45.Yv Solitons
41.20.-q Applied classical electromagnetism
41.90.+e Other topics in electromagnetism; electron and ion optics
42.15.-i Geometrical optics

42.25.-p Wave optics
42.30.-d Imaging and optical processing
42.40.-i Holography
42.65.Tg Optical solitons; nonlinear guided waves
42.65.Wi Nonlinear waveguides
42.68.-w Atmospheric and ocean optics
42.70.-a Optical materials (except 42.70.Df)
42.79.-e Optical elements, devices, and systems
42.81.-i Fiber optics
43.20.+g General linear acoustics
43.25.+y Nonlinear acoustics
43.28.+h Aeroacoustics and atmospheric sound
43.30.+m Underwater sound
43.35.+d Ultrasonics, quantum acoustics, and physical effects of sound
43.38.+n Transduction; acoustical devices for the generation and reproduction of sound
43.40.+s Structural acoustics and vibration
43.50.+y Noise: its effects and control
43.55.+p Architectural acoustics
43.58.+z Acoustical measurements and instrumentation
43.60.+d Acoustic signal processing
43.72.+q Speech processing and communication systems
43.90.+v Other topics in acoustics
45.20.-d Formalisms in classical mechanics
45.30.+s General linear dynamical systems
45.80.+r Control of mechanical systems
46.25.Cc Theoretical studies (static elasticity)
46.40.-f Vibrations and mechanical waves
46.70.-p Application of continuum mechanics to structures
46.90.+s Other topics in continuum mechanics of solids

16. Computational physics

02.60.-x Numerical approximation and analysis
02.70.-c Computational techniques; simulations
05.10.-a Computational methods in statistical physics and nonlinear dynamics
07.05.-t Computers in experimental physics
45.10.-b Computational methods in classical mechanics
46.15.-x Computational methods in continuum mechanics
47.11.-j Computational methods in fluid dynamics
95.75.Mn Image processing (including source extraction)
95.75.Pq Mathematical procedures and computer techniques
95.75.Wx Time series analysis, time variability