

## Classification list *Radiation Physics and Chemistry*

When you select keywords from this list for your submission or your personal profile on EES, please do not select the main headings but only the sub-categories. You may select several sub-categories.

Classification	Description
10	Techniques
10.1	X-ray techniques
10.2	Electron scattering
10.3	Gamma-ray techniques
10.4	Neutron techniques
10.5	Particle techniques
10.6	Visible / luminescence techniques
10.7	IR techniques
10.8	VUV/UV techniques
20	Radiation Physics
20.1	Synchrotron Radiation
20.2	Accelerator or plasma research
20.3	Bremsstrahlung
20.4	Characteristic Radiation
20.5	Cherenkov radiation
20.6	Photon Scattering
20.7	Photon absorption, photoabsorption or photoionisation
20.8	Photon – electron interactions
20.9	Radiation transport
20.1	X-ray fluorescence (XRF)
20.11	X-ray Absorption Fine Structure (XAFS)
20.12	X-ray Absorption Near-Edge Structure (XANES)
20.13	General techniques and fields
20.13.10	Microprobe
20.13.11	Imaging
20.13.12	Optics
20.13.13	X-ray diffraction (XRD, single crystal, powder diffraction or other)
20.13.14	Neutron diffraction
20.13.15	PIXE (Proton-induced X-ray Emission and related techniques)
20.13.16	Channelling
20.13.17	Parametric radiation generation or application
20.13.18	DAFS or related techniques including MAD
20.13.19	Attenuation coefficients
20.13.20	Form factors
20.13.21	Polarisation

20.13.22	Mathematical methods in radiation physics
20.13.23	Monte Carlo simulation
20.13.24	Dosimetry in radiation physics
20.13.25	Reference Data
20.13.26	Radionuclide spectra
20.13.27	radiation fields from point and extended sources
20.13.28	Detector response functions
20.13.29	Buildup factors
20.13.30	XFEL Science
20.14	Applications of radiation physics in fundamental research
20.14.1	x-ray, -ray and neutrino astronomy and astrophysics
20.14.2	Fusion plasma diagnostics
20.14.3	High harmonic generation
20.14.4	High power laser diagnosis and physics
20.14.5	Polycapillary x-ray and neutron optics
20.15	Applications of radiation in:
20.15.1	Magnetic Materials
20.15.2	Bond lengths
20.15.3	Thermal amplitudes
20.15.4	Mean free paths
20.15.5	Coordination chemistry, bioinorganic chemistry
20.15.6	Metalloenzymes
20.15.7	electrochemistry
20.15.8	Catalysis
20.15.9	Characterisation of human tissue and disease
30	Radiation Chemistry
	Kinetics and mechanism of high energy ionizing radiation induced reactions
30.1	
30.2	Pulse radiolysis, instrumentation and application
30.3	Dose and dose rate effects in radiation chemistry
30.4	Radiation induced chain reactions, polymerization
30.5	Polymer radiation chemistry
30.6	Application of radiation chemistry in organic synthesis
30.7	Modeling of radiation induced chemical reactions
30.8	Heavy ion irradiation
30.9	Track structures in radiation chemistry and materials
30.1	Ionizing radiation effects on molecules of biochemical interest
30.11	Radiolysis of ionic liquids
30.12	Chemistry of wastewater and flue gas treatment by ionizing radiation
30.13	Radiation chemistry effects in solids - reactions
30.14	Positron for polymer characterization
40	Radiation Processing
40.1	Radiation Sterilization

40.1.1	Microbiology
40.1.2	Toxicology
40.1.3	Biocompatibility
40.1.4	Validation
40.1.5	Implants
40.1.6	Pharmaceuticals
40.1.7	Medicinal products
40.1.8	Viruses
40.1.9	HIV
40.2	Food irradiation
40.2.1	Microbiology
40.2.2	Shelf life extension
40.2.3	Chemical effects
40.2.4	Nutrition
40.2.5	Detection
40.2.6	Induced radioactivity
40.2.7	Fruits, entymology, quarantine
40.2.8	Vegetables
40.2.9	Nuts
40.2.10	Meat
40.2.11	Combination treatment
40.2.12	Parasites
40.2.13	Eggs and larvae
40.2.14	Phytopsanitary treatment
40.3	Polymers
40.3.1	Synthesis
40.3.2	Polymerization
40.3.3	Curing
40.3.4	Grafting
40.3.5	Crosslinking
40.3.6	Degradation, radiation resistant polymers
40.3.7	Composites
40.3.8	Rubber
40.3.9	Surface morphology
40.3.10	Biomedical polymers
40.3.11	Hydrogels
40.3.12	Stored charge
40.3.13	Nano materials
40.3.14	Wood, cellulose, pulp
40.3.15	Colour and dye
40.3.16	Oils
40.3.17	Electrolytes
40.3.18	Concrete – polymer

40.3.19	Ion exchangers
40.3.20	Films and coatings
40.3.21	Packaging
40.4	Environmental
40.4.1	Effluent gas
40.4.2	Waste water
40.4.3	Water purification
40.4.4	Toxin reduction
40.4.5	Sludge
40.4.6	Recycling of wastes
40.5	Dosimetry and process control
40.5.1	Dosimeter systems
40.5.2	Solid state dosimeters - EPR dosimetry
40.5.3	Solid state dosimeters - Film dosimeter
40.5.4	Liquid state dosimeters
40.5.5	Analytical instrumentation
40.5.6	Environmental influence
40.5.7	Dosimetry applications
40.5.8	Monte Carlo calculations
40.6	Radiation sources and facilities
40.6.1	Electron Accelerators
40.6.2	Gamma sources ( $^{60}\text{Co}$ . $^{137}\text{Cs}$ ) X-ray
40.6.3	Safety
40.6.3	Shielding

**Last updated: Aug 1, 2016**