

CPC**COOPERATIVE PATENT CLASSIFICATION****G21K****TECHNIQUES FOR HANDLING PARTICLES OR IONISING RADIATION NOT OTHERWISE PROVIDED FOR; IRRADIATION DEVICES; GAMMA RAY OR X-RAY MICROSCOPES****NOTE**

In this subclass, the following term is used with the meaning indicated:

"particle" means a molecular, atomic or subatomic particle

WARNING

The following IPC group is not used in the CPC scheme. Subject matter covered this group is classified in the following CPC group:

- G21K 3/00 covered by [G21K 1/10](#)

G21K 1/00

Arrangements for handling particles or ionizing radiation, e.g. focusing or moderating (production or acceleration of neutrons, electrically-charged particles, neutral molecular beams or neutral atomic beams [H05H 3/00](#) - [H05H 15/00](#))

G21K 1/003

- . {Manipulation of charged particles by using radiation pressure, e.g. optical levitation (acceleration of charged particles [H05H 5/00](#), [H05H 7/00](#), [H05H 9/00](#), [H05H 11/00](#), [H05H 13/00](#))}

G21K 1/006

- . {Manipulation of neutral particles by using radiation pressure, e.g. optical levitation (production or acceleration of neutral particles [H05H 3/00](#))}

G21K 1/02

- . using diaphragms, collimators

G21K 1/025

- . . {using multiple collimators, e.g. Bucky screens; other devices for eliminating undesired or dispersed radiation}

G21K 1/04

- . . using variable diaphragms, shutters, choppers

G21K 1/043

- . . . {changing time structure of beams by mechanical means, e.g. choppers, spinning filter wheels}

G21K 1/046

- . . . {varying the contour of the field, e.g. multileaf collimators}

G21K 1/06

- . using diffraction, refraction or reflection, e.g. monochromators ([G21K 1/10](#), [G21K 7/00](#) take precedence)

G21K 1/062

- . . {Devices having a multilayer structure}

G21K 1/065

- . . {using refraction, e.g. Tomie lenses}

G21K 1/067

- . . {using surface reflection, e.g. grazing incidence mirrors, gratings (multilayer mirrors [G21K 1/062](#); crystal optics [G21K 1/06](#))}

G21K 1/08

- . Deviation, concentration or focusing of the beam by electric or magnetic means (electron-optical arrangements in electric discharge tubes [H01J 29/46](#); {details, e.g. electric or magnetic deviating means for direct voltage accelerators or in accelerators using single pulses [H05H 5/02](#); arrangements for injecting particles into orbits [H05H 7/08](#); arrangements for ejecting particles from orbits [H05H 7/10](#))}

G21K 1/087

- . . by electrical means

G21K 1/093

- . . by magnetic means

G21K 1/10

- . Scattering devices; Absorbing devices; Ionising radiation filters

- G21K 1/12
 - . . Resonant absorbers or driving arrangements therefor, e.g. for Moessbauer-effect devices [{\(motors with reciprocating, oscillating or vibrating magnet, armature or coil system in general H02K 33/00\)}](#)
- G21K 1/14
 - . using charge exchange devices, e.g. for neutralising or changing the sign of the electrical charges of beams [\(producing or accelerating neutral particle beams H05H 3/00\)](#)
- G21K 1/16
 - . using polarising devices, e.g. for obtaining a polarised beam [{\(ion sources, ion guns H01J 27/02; polarised targets for producing nuclear reactions H05H 6/005\)}](#)
- G21K 4/00**

Conversion screens for the conversion of the spatial distribution of X-rays or particle radiation into visible images, e.g. fluoroscopic screens
 (photographic processes using X-ray intensifiers [G03C 5/17](#); discharge tubes comprising luminescent screens [H01J 1/62](#); cathode ray tubes for X-ray conversion with optical output [H01J 31/50](#))
- G21K 2004/02
 - . [{characterised by the external panel structure}](#)
- G21K 2004/04
 - . [{with an intermediate layer}](#)
- G21K 2004/06
 - . [{with a phosphor layer}](#)
- G21K 2004/08
 - . [{with a binder in the phosphor layer}](#)
- G21K 2004/10
 - . [{with a protective film}](#)
- G21K 2004/12
 - . [{with a support}](#)
- G21K 5/00**

Irradiation devices [\(discharge tubes for irradiating H01J 37/00\)](#)
- G21K 5/02
 - . having no beam-forming means
- G21K 5/04
 - . with beam-forming means
- G21K 5/08
 - . Holder for targets or for other objects to be irradiated
- G21K 5/10
 - . with provision for relative movement of beam source and object to be irradiated
- G21K 7/00**

Gamma- or X-ray microscopes
- G21K 2201/00**

Arrangements for handling radiation or particles
- G21K 2201/06
 - . using diffractive, refractive or reflecting elements
- G21K 2201/061
 - . . characterised by a multilayer structure
- G21K 2201/062
 - . . the element being a crystal
- G21K 2201/064
 - . . having a curved surface
- G21K 2201/065
 - . . provided with cooling means
- G21K 2201/067
 - . . Construction details
- G21K 2201/068
 - . . specially adapted for particle beams
- G21K 2207/00**

Particular details of imaging devices or methods using ionizing electromagnetic radiation such as X-rays or gamma rays
- G21K 2207/005
 - . Methods and devices obtaining contrast from non-absorbing interaction of the radiation with matter, e.g. phase contrast