

Software for 3D-modeling of the processes of transfer and registration of ionizing radiation

FEATURES

- · high accuracy and rate of calculations
- simplicity of using for a wide range of tasks
- 3D scene providing maximum visibility of modeling
- availability of replenished database of sources and materials
- possibility of creating the maximally complex measuring systems
- forming multidetector systems and schemes of coincidence
- display of the results in the form of an ideal and real spectrum
- tracing and drawing trajectories of particles
- availability of the ready and test projects in the software package
- accounting cascade summation
- using of the specified number of computer processors in order to implement multithreading and speed up the calculation

PARAMETERS

Energy range: 1 keV - 10 MeV

Particles: photons, electrons (positrons), heavy charged particles

<u>Figures</u>: cylinder, cone, parallelepiped, torus, sphere, shear shape, rotation figure, polygon, disk.

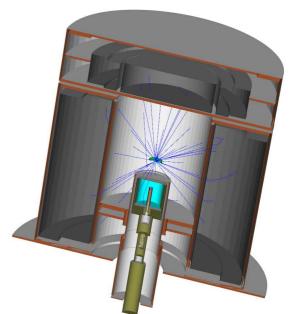
Types of spectra: linear, beta - continuous, continuous, extended cascade

Projects views: contour, grid, fill with color,

section, fill + grid, section + fill with color

Types of source geometries: point, volumetric







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APPLICATION

- calibration of instruments used for ionizing radiation detection and measurements
- calculation of detection limits and minimum detectable activity of radionuclides
- determination of characteristics of registration system for inaccessible radioactive sources
- reduction of experimental investigations with using the hazardous ionizing radiation for human health
- obtaining clear picture of the internal processes of radiation transfer in order to optimize the design of the measuring devices and their protection
- comparative demonstration of the different systems of protection against ionizing radiation and its detection systems
- training of personnel in working with ionizing radiation detection systems without using of an expensive equipment and radioactive sources
- training of specialists in the field of measurement and protection from ionizing radiation
- acceleration, simplification and reduction in the cost of design and optimization of ionizing radiation detection systems

