

Mathematical modeling of the radiation environment sensor based on diamond detectors

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The physical and mathematical model of the radiation situation in the diamond sensor detector was developed. Count rates of the particle sensors were measured in the registration of a monoenergetic electron and proton radiation. The simulation of the sensor data was made for simultaneously irradiation by electrons and protons with spectral characteristics, that were corresponded to cosmic spectra. It is shown that structure of data, that were measured with sensors, let effectively separate signals from electronic and proton cosmic radiation component.

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