

On the possibility to use semiconductive hybrid pixel detectors for study of radiation belt of the Earth.

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The scientific apparatus “Gamma-400” designed for study of hadron and electromagnetic components of cosmic rays will be launched to elliptic orbit with an apogee of about 300 000 km and perigee of about 500 km. Such a configuration of the orbit allows it to cross periodically the radiation belt and the outer part of magnetosphere. We discuss the possibility to use hybrid pixel detectors based on the Timepix chip and semiconductive sensors. Due to high granularity of the sensor (pixel size is 55 μm) and possibility to measure independently an energy deposition in each pixel such compact and lightweight detector installed on board of “Gamma-400” could be a unique instrument for study of spatial and time structure of electron and proton components of the radiation belt.

Presentation type

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