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GRB Observations on Cubesat Satellites in the "Universat-SOCRAT" Project

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Lomonosov Moscow State University Universat-SOCRAT program is aimed at using small satellites to monitor space threats

These satellites are equipped with instruments for space radiation monitoring, as well as prototypes of devices for observing transient phenomena in the Earth's atmosphere.

In particular, two satellites are equipped with scintillation phosphor detectors that detect charged particles and gamma quanta in the energy release range of 0.1–2 MeV.

The geometric factor of these instruments is $\approx 50 \text{ cm}^2 \cdot \text{sr}$.

One of the Cubesats also carries an optical photometer, consisting of four silicon photomultipliers, which entrance windows are covered with different light filters.

First satellites were launched into solar-synchronous orbits with an altitude of $\approx 550 \text{ km}$ from the Vostochny cosmodrome. This makes favorable conditions for space radiation monitoring in various areas of near-Earth space, including zones of trapped radiation, areas of precipitation, etc. Such an orbit also allows observations of flare phenomena both in the equatorial atmosphere and at high latitudes. The first results are discussed.

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