

Bulgarian instruments for space radiation dosimetry and main scientific results

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Ionizing radiation is recognized to be one of the main health concerns for humans in the space environment. Estimation of space radiation effects on health requires the accurate knowledge of the accumulated absorbed dose, which depends on the global space radiation distribution, solar cycle and local shielding generated by the 3D mass distribution of the space vehicle. We present an overview of the spectrometer–dosimeters of the Liulin type, which were developed in the late 1980s and have been in use since then. Two major measurement systems have been developed by our team. The first one is based on one silicon detector and is known as a Liulin-type deposited energy spectrometer (DES) (Dachev et al., 2002, 2003), while the second one is a dosimetric telescope (DT) with two or three silicon detectors. The Liulin-type instruments were calibrated using a number of radioactive sources and particle accelerators. The main results of the calibrations are presented in the presentation. Some of the most significant scientific results obtained in space and on aircraft, balloon and rocket flights since 1989 are presented also.

Přihlásit do soutěže

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