

The Earth's trapped radiation as a natural detector of cosmic radiation

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The Earth's magnetic trapped region is a place of localization of different sources of charged particles. Among them: solar plasma, solar energetic particles, ionospheric plasma, galactic cosmic rays and anomalous component of cosmic rays. All of them give us the definite information about the physical properties of the particular source. Therefore radiation belts can be considered as a natural space detector of cosmic radiation. This review presents the analysis of experimental data; models of different components of radiation and their sources in the near-Earth space.