

## Orbital High Energy Cosmic Rays Observatory - stages of development

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Current status and preliminary design of the High-Energy Ray Observatory (HERO) are presented. The HERO is planned to be launched onboard a heavy satellite. This experiment is based on the application of a deep and wide aperture ionization calorimeter with mass from 10 to 70 tons. The effective geometrical factor of the observatory varies from 12 to 62 m<sup>2</sup>sr respectively, depending on the mass of the calorimeter. Under the 5-7 years exposure, this mission will allow to measure the cosmic ray composition and energy spectra of nuclei around the knee and up to 10<sup>17</sup> eV with high precision and to solve the most actual problems of high energy astrophysics. Stages of development are presented; details of technical realization are discussed.

**Primary author:** PODOROZHNY, Dmitry (M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics)

**Co-authors:** Dr PANOV, Alexander (SINP MSU); Mr KURGANOV, Alexandr (SINP MSU); TURUNDAEVSKIY, Andrey (SINP MSU); Dr KARMANOV, Dmitry (SINP MSU); Dr TKACHEV, Leonid (Joint Institute for Nuclear Research)

**Presenter:** PODOROZHNY, Dmitry (M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics M.V.Lomonosov Moscow State University, Skobeltsyn Institute of Nuclear Physics)

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