



CORONAS-F: Contribution to Solar-Terrestrial Physics (Results of the Mission)

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The report contains a review of the main results of the CORONAS-F mission (2001-2005) concerning various aspects of solar and solar-terrestrial physics. During its operation (from July 31, 2001 to December 6, 2005), the satellite was carrying out helioseismic observations of the Sun. The morphology of active phenomena in the Sun, including the outstanding events in the declining phase of the solar cycle, was studied using an X-ray telescope. Extensive data on hard flare radiations obtained during the mission were used as a basis for diagnostics of the flare-generated plasma and particle acceleration processes. The solar cosmic ray and neutron fluxes in the near-Earth space were measured, and the radiation conditions and magnetospheric dynamics during geomagnetic storms were studied.