

# **Basic results of the CORONAS-F mission**

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The report contains a review of the basic results of the CORONAS-F mission concerning the solar activity and its manifestations in near-Earth space. During the period of orbital operation of the satellite (from July 31, 2001 to December 6, 2005), the onboard devices made it possible to localize and study the morphology of numerous active phenomena in the Sun, including the outstanding events in the declining phase of the solar cycle; to carry out a spectroscopic diagnostics of the coronal and flare-generated plasma; to study the atomic and nuclear processes in solar flares; to detect fluxes of solar cosmic rays, gamma-rays, and neutrons from the major flares reaching the Earth's orbit; and to explore the dynamics of the magnetosphere in the corresponding time intervals. Helioseismic observations have been used to analyze the frequency, amplitude, and phase characteristics of the global (5-min) oscillations of the Sun.