

International Space Station-based Meteor Observation Project: METEOR

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The International Space Station (ISS) is an ideal platform for continuous meteor observation without distortion caused by weather and atmospheric disturbances. We will fly a Meteor observation system (METEOR) with a super sensitive, color high definition TV (HDTV) camera (Fig. 1a, Table 2) and a wide-angle, bright lens with an extremely low F value (F 0.95, f=17.5mm) to the pressurized US Lab module (DESTINY) of the ISS, install it on the Window Observational Research Facility (WORF) rack, and conduct a continuous meteor observation through the window for two years. A transmitted diffraction grating is also installed in front of the lens for the spectral analyses of the meteoroids, in order to estimate meteors' elemental abundance, such as Fe, Ca, Mg, Na. The data will allow better comparison of physical and chemical characteristics among major meteor showers and their parent bodies. The onboard METEOR camera will be operated directly from the mission operation center located in PERC, Chitech and the captured data will be downlinked and analyzed within a day. Here, we report the latest status and results of the project.

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