



Observations of Zodiacal Light during the cruising phase of PLANET-C/VCO Mission

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We present an observing project using the cruising phase of PLANET-C/VCO (Venus Climate Orbiter) mission. The PLANET-C mission will give us a unique opportunity to observe the zodiacal light from various viewing points in the solar system without any contaminations of sky light, and will map out the spatial distribution of the zodiacal dust cloud along the heliocentric distance, the resonance structures, and small clumps of the cloud complex. "IR2" camera onboard PLANET-C, whose main target is to monitor the Venusian atmosphere at near infrared wavelength, is designed very carefully to extend its sensitivities toward the faint zodiacal light, and to realize very stable response. A PtSi infrared sensor is developed for dedicated use of IR2 camera, which has a large dynamical range covering bright Venusian surface to the faint flux of the zodiacal light. The current status of the detector development is also presented in this talk. Very significant problem on the zodiacal dust cloud is the origin itself, since the lifetime of the interplanetary dust under the Poynting-Robertson drag is much shorter than the age of the solar system. PLANET-C capabilities such as good sensitivities for extended sources, unique viewing points, fine spatial resolutions will open a new horizon for these studies.