

## Observations of the zodiacal light in the cruising phase of PLANET-C/VCO

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The Planet-C/Venus Climate Orbiter (VCO) mission is scheduled to be launched in 2010, and will provide us with unique opportunity to reveal the details of the atmospheric motion on Venus, and to approach the dynamics of Venusian climate. Planet-C employs four cameras to take snap shots of Venus in different wavelengths to observe Venusian atmosphere at various altitudes.

One of the near-infrared camera, IR2 with wavelength coverage 1.5-2.5  $\mu\text{m}$ , is primarily designed to observe the Venusian lower atmosphere. This camera was designed with several additional features of the optics as well as in the sensor device to realize observations of a faint diffuse light. The large baffle, which is originally designed to make observations while the solar elongation angle is relatively small, also is advantageous for the zodiacal light observations.

The wide field of view with high spatial resolution (42arcsec/pixel) has a high capability to subtract star light contamination that contributes not a small portion of sky brightness in these wavelengths.

The wide coverage in solar inclination angle realizes to observe the very inner part of the zodiacal emission.

The cruising trajectory is also unique for these studies, since Planet-C/VCO will track around the interplanetary dust cloud clump near the earth orbit at the beginning of the mission and will change the heliocentric distance from 1.1 AU toward 0.7 AU along the symmetric plane.