

Characteristics of the interstellar medium by the He I 58.4-nm observation from the interplanetary space with NOZOMI/XUV

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There is a region with high-density helium gas in shape of a corn in the interplanetary space. The helium atoms originate from the local interstellar medium, and are injected into the heliosphere by the interstellar wind. The solar gravity and radiation pressure decide the helium density distribution in the interplanetary space. Therefore we can estimate the interstellar wind velocity and the helium density and temperature in the interstellar medium from the helium density distribution in the interplanetary space. In this study, we estimate these parameters in the interstellar medium from the optical measurements by the eXtreme Ultra-Violet (XUV) scanner on board Mars orbiter NOZOMI.