

**R007-09**

**Zoom meeting D : 11/3 AM1 (9:00-10:30)**

**9:00~9:15**

## **Energy density composition in the inner heliosheath affected by pickup ions**

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The pressure equilibrium between the solar wind and the interstellar medium forms the heliosphere. Therefore, a precise evaluation of the energy density on the solar wind side (inner heliosheath; IHS) is necessary to understand the outer structure of the heliosphere, assuming the uniform interstellar environment. Recent observations by New Horizons estimated the density of pickup ions (PUIs) in the termination shock to be approximately 25% of the solar wind plasma. Because of its effectively high thermal energy, PUIs are the principal component in the pressure in the IHS. The presence of PUIs modifies the Rankine-Hugoniot relation at the termination shock, consequently affecting the energy partitioning between the plasma and the magnetic field in the downstream IHS. In this talk, I will present the results of hybrid simulations that contain the actual scale in the radial dimension showing the self-consistent formation of the termination shock and the heliopause. The effect of PUIs on the energy density composition in the IHS and the resultant variations in the IHS spatial scale are quantitatively verified.