evelopment of a low-energy energetic neutral atom analyzer (PEP/JNA) for JUICE

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We are developping a low-energy (10eV-3keV) energetic neutral atom analyser (PEP/JNA) which is to be onboard European JUICE spacecraft. Ganymede has its own intrinsic magnetic moment. There is considered to be a mini-magnetosphere around Ganymede because of interactions between plasma in Jovian magnetosphere and Ganmede's magnetic field. However, its characteristics will be different from terrstrical one, since Alfven mach number of upstream plasma flow (corotational plasma flow around Jupiter) is small. JNA (Jovian Neutral Analyzer) will reveal characteristics of Ganymede's magnetosphere in terms of measurement of scattered/sputtered particles generated by precipitation of plasma particles onto Ganymede's surface. Measurement of these particles will provide spatial distribution of plasmas in remote sense, since electric/magnetic field do not affect trajectories of neutral particles. We will discuss current status of JNA.

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