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

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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 magnetosphere around Ganymede because of interactions between plasma in the Jovian magnetosphere and Ganmede's magnetic field. However, its characteristics is different from the terrstrical one, since Alfven mach number of upstream plasma flow (corotational plasma flow around Jupiter) is less than 1 (sub-sonic). JNA (Jovian Neutral Analyzer) will reveal characteristics of the Ganymede's magnetosphere by measurement of scattered and 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. For the instrument development, the flight model is under manufaturing. We will discuss current status of JNA.