

## Does a Plasma Tail of Comet ISON (C/2012 S1) Cause the Interplanetary Scintillation?

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C/2012 S1 (ISON) (referred to as Comet ISON) showed a well-developed plasma tail (longer than 0.1 AU) before its perihelion passage on November 28, 2013. A plasma tail consists of ionized gases emitted from a cometary nucleus and orients itself in the anti-solar direction by an interaction with the solar wind. In this study, we investigated the plasma tail of Comet ISON with interplanetary scintillation (IPS) data. The IPS is a scattering phenomenon of radio waves by density fluctuations of the solar wind, and it is well known that interplanetary disturbances such as coronal mass ejections (CMEs) cause an abrupt increase in IPS. A cometary plasma tail may also be a potential cause for the IPS enhancement, while observational studies for C/1972 E1 (Kohoutek), 1P/Halley and other are still controversial (e.g. Ananthkrishnan *et al.*, 1975, 1987; Slee *et al.*, 1987; Abe *et al.*, 1997; Roy *et al.*, 2007). We identified radio sources whose lines-of-sight approached to Comet ISON's plasma tail between November 1 and 28, and obtained their IPS data using the Solar Wind Imaging Facility (Tokumaru *et al.*, 2011) of the Solar-Terrestrial Environment Laboratory, Nagoya University. From examinations for them, we confirmed four IPS enhancement events, which is likely to be related to the plasma tail passage. In this session, we report this preliminary result for them and discuss an IPS of a cometary plasma tail origin.

Keywords: Comet ISON (C/2012 S1), Cometary plasma tail, Radio scintillation