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Transient brightening of Jupiter's aurora observed by the Hisaki satellite and Hubble Space Telescope during approach phase of the Juno spacecraft

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Here we report the coordinated observation of Jupiter's aurora made by Hisaki and HST during the approach phase of the Juno spacecraft in mid-2016. On day 142, Hisaki detected transient variation of Jupiter's aurora with a maximum total H<sub>2</sub> emission power of ~8.5 TW. The simultaneous HST imaging was indicative of a large 'dawn storm', which is associated with bursty release of electromagnetic energy in the space around Jupiter, at the onset of the transient aurora. The low latitudinal auroral emission, which is associated with hot plasma appearance close to Jupiter, followed the dawn storm within less than two Jupiter rotations. These results imply that the magnetospheric disturbance is initiated via the bursty energy release and rapidly expands toward the inner magnetosphere, followed by the high energy plasma transport to the innermost region of magnetosphere. This corresponds to the radially inward transport of the plasma and/or energy even in rapidly rotating magnetosphere.

\* The talk will be given in English language..

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