

Pi pulsations at substorm onset site

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Study on the relationship between substorm and Pi pulsation has a long history. Detailed properties of Pi pulsations in the course of substorm development is, however, not well understood. We report irregular geomagnetic pulsations at substorm onset site using dH/dt observations at conjugate stations. The pulsations around substorm onset are tentatively classified into 5 types; pre-onset DC-ULF, pre-onset Pi 2, onset Pi 1, onset Pi 2, and post-onset Pi 2. The characteristics of these Pis and their relationship with field aligned currents and plasma instability at substorm are discussed in relation to two step evolution of substorm onset.

