

# Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

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PEM005-08

Room:303

Time:May 26 16:30-16:50

## Observation and Physical Mechanism of Substorms

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We present key features of substorm observation and their physical mechanism. In particular, we emphasize the fine structure in the breakup arcs and the associated magnetic fluctuations in Pi1 and Pi2 frequency ranges and their exponential growing behaviors before the arc breakup. We will discuss the possible physical mechanism of substorm onset in the magnetosphere and the formation of auroral breakup arc in the ionosphere. We will also discuss the turbulent states, the current disruption and magnetic field dipolarization processes and the dispersionless particle injection during the expansion phase.

Keywords: substorms