

## Acceleration of meandering electrons through the lower-hybrid-drift instability

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Recently, we find that an intense electron current layer is formed around the neutral sheet at the non-linear stage of the lower hybrid drift instability (LHDI) in a current sheet, and that this change of the current sheet structure leads to fast magnetic reconnection. At the non-linear stage of LHDI, the electric current in the boundary region is quickly reduced, and an intense electron current layer that compensates the reduced current emerges. This compensation is required from the conservation of the total current as a whole. The compensative current is embedded in a relatively narrow region around the neutral sheet and is carried by accelerated meandering electrons. The electron acceleration takes place at the edges of the embedded current sheet (but not at the neutral sheet) and is the very origin of the dissipation process. Moreover, the generation of these accelerated meandering electrons is essential to the trigger of magnetic reconnection. In this report, we discuss the efficiency of the electron acceleration with various boundary conditions, e.g. under the existence of the guide field, the driven flow from the lobe region, etc.