**Acceleration and losses of energetic electrons during substom injections**

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Substorm time injections of energetic electrons are characterized by various adiabatic and non-adiabatic processes contributing to electron acceleration and losses. One of the main acceleration processes is the adiabatic electron heating. Such heating, however, shapes quite unstable electron distributions driving generation of a wide range of electromagnetic and electrostatic waves. These wave modes largely contribute to electron scattering and losses via precipitation into the Earth’s ionosphere. This presentation combines recent results from low-altitude and equatorial spacecraft observations and numerical simulations with the focus on quantification of adiabatic and non-adiabatic effects in dynamics of electron injections.