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## The Atmospheric Ionization during Substorm Model

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The Atmospheric Ionization during Substorm Model (AISstorm) is the successor of the Atmospheric Ionization Module Osnabrück (AIMOS) and thus may also be considered as AIMOS 2.0 - AISstorm.

The overall structure was kept mostly unaltered and splits up into an empirical model that determines the 2D precipitating particle flux and a numerical model that determines the ionization profile of single particles. The combination of these two results in a high resolution 3D particle ionization pattern.

The internal structure of the model has been completely revised with the main aspects being: a) an internal magnetic coordinate system, b) including substorms characteristics, c) higher time resolution, d) higher spatial resolution, e) energy specific separate handling of drift loss cone, auroal precipitation and polar cap precipitation, partly even in separate coordinate systems, f) better MLT resolution and g) covering a longer time period. All these tasks have been matched while keeping the output data format identical, allowing easy transition to the new version.