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A model of energetic electron precipitation fluxes inside and outside of the plasmasphere during space weather events

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In this study we will present a description of the PLASMON-developed model of energetic electron precipitation (EEP) fluxes inside and outside of the plasmasphere during space weather events. The aim of the PLASMON EEP model is to identify energetic electron precipitation into the ionosphere generated by ULF/VLF waves in the magnetosphere. Wave generation is influenced by MLT-dependent plasmaspheric density structures such as the plasmapause. During geomagnetic disturbances the intensities of the ULF/VLF waves are enhanced, plasmaspheric structures are modified, and differing levels of precipitation flux are generated. The model will characterise the variations in electron precipitation relative to the plasmapause, building on the outputs of the PLASMON data assimilative model of the plasmasphere, and observations of EEP characteristics made by the PLASMON ground-based VLF receiver network (AARDDVARK).