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Solar wind control of the electron fluxes at geostationary orbit

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The interaction of CMEs and other solar wind irregularities with the terrestrial magnetosphere may result in the production of large fluxes of high energy electrons within the radiation belts, posing a severe threat to the operations of spacecraft at geostationary orbit. It is observed that the time delay between cause and effect depends upon the particle energy. In the framework of the Horizon 2020 funded project PROGRESS, models for the forecast of daily electron fluxes at various energies driven by solar wind parameters have been developed. This presentation will discuss the development and performance of these models, comparing the results to other models. The methodology for the inclusion of an MLT dependence within these models is discussed and initial results presented.