

## SELF-LIMITATION OF RADIATION BELT PARTICLE FLUXES

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We re-examine the Kennel-Petschek concept of self-limitation of stably-trapped particle fluxes in a planetary magnetosphere. A limit on the stably-trapped particle flux is attained in the state of marginal stability when electromagnetic waves generated at the magnetic equator acquire a specified gain over a given convective growth length. We derive fully relativistic formulae for the limiting electron flux for a general planetary radiation belt at a given L-shell. These new limits on the trapped flux are compared with observed energetic electron fluxes at Earth, Jupiter, and Uranus.