



## Myths and Mysteries of Solar Wind Speed and MeV Electrons in the Magnetosphere

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The remarkable correlation between high speed solar wind and the enhancement of energetic electrons in the magnetosphere has been identified for over four decades, yet the mystery of this correlation remains. Recently, several interpretations about this correlation have been proposed and most of them are incomplete and some of them may have generated the widespread verdict (or myth) that enhanced ULF waves alone lead to enhanced MeV electrons in the radiation belts. In this presentation, we present a brief review of the association of high speed solar wind and energetic electrons across the entire relevant energy range (10s of keV to multi-MeV) and magnetospheric region (from inner magnetosphere to central plumesheet). We discuss the incompleteness of existing interpretations and we describe a more complete picture in understanding this mystery.