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## Magnetospheric ULF wave dependence on Interplanetary Coronal Mass Ejections and Stream Interaction Regions

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Radial diffusion driven by Ultra Low Frequency (ULF) waves is very important for magnetospheric dynamics, because it contributes to relativistic electron enhancements and losses in the outer Van Allen radiation belt. Previous studies have investigated the dependence of ULF wave power spectral density and radial diffusion coefficients ( $D_{LL}$ ) on solar wind parameters. However, a conclusive correlation between the type of interplanetary drivers (such as Interplanetary Coronal Mass Ejections (ICMEs) and Stream Interaction Regions (SIRs)), ULF wave power spectral density and radial diffusion coefficients  $D_{LL}$  is still an open topic. In this study, we use the "SafeSpace" database (<https://synergasia.uoa.gr/modules/document/?course=PHYS120>), which includes radial diffusion coefficients  $D_{LL}$  and ULF wave power spectral density. This database was created using magnetic and electric field measurements by the THEMIS satellites for a 9-year period (2011-2019). We conduct a statistical analysis of radial diffusion coefficients  $D_{LL}$ , which contributes to relativistic electron radial diffusion quantification, and ULF wave power spectral density, to find out their dependence on ICMEs (25 events) and SIRs (46 events). In addition, we study how the parameters of these solar wind drivers influence the growth of ULF waves and the behavior of radial diffusion coefficients.