

WHITE-LIGHT OBSERVATIONS OF RADIO-QUIET AND RADIO-LOUD INTERPLANETARY SHOCKS

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Interplanetary (IP) shocks driven by coronal mass ejections (CMEs) are generally indicative of energetic CMEs. These shocks are important source of energetic particles in the heliosphere either directly by particle detectors or by type II radio bursts. There are several in situ shock signatures at 1 AU such as storm sudden commencement, energetic storm particle events, and plasma and magnetic field signatures. However, existence of type II bursts has been the only primary signature near the Sun, apart from occasional white-light signatures. In this paper, we show that there is a significant difference between CMEs that are associated with radio-quiet and radio-loud from the point of view of the type II radio bursts. We interpret the difference in terms of the well-known spatial relationship between shock and the driving CME. For this purpose, we make use of the shocks detected during solar cycle 23 and the associated CMEs from the Solar and Heliospheric Observatory (SOHO) mission.

Coronal Mass ejections, shocks, type II radio bursts

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