Review on the Relationship between Metric Type II Solar Radio Bursts and Coronal Mass Ejections

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Metric type II solar radio bursts are known radio signatures of coronal shocks. Since the first discovery of the metric type II burst by Payne-Scott, Yabsley, and Bolton (1947), the debate on the origin (solar flare and/or coronal mass ejection) of the type II bursts has continued. By comparing kinematics of m-type II shocks with those of CMEs observed by SOHO/LASCO C1 & C2, MLSO/MK4, STEREO/COR1, and SDO/AIA, I have investigated the relationship between the type II shocks and CMEs. I found that CMEs could be main source of type II bursts, and suggested that type II bursts are generated in two sites: either at the CME nose or at the CME-streamer interaction site. I will review my studies on the relationship between CMEs and metric type II radio bursts.