SHOCK MAGNETIC STRUCTURE FOR A TYPE II RADIO BURST

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Coronal shocks are magnetohydrodynamic shocks that can happened ubiquitously and closely to human beings, type II radio bursts are the radio signature of the coronal shocks. What magnetic conditions are needed for the generation of type II radio bursts is still puzzling us. Here, we study a type II radio burst, whose corresponding coronal is observed by the Solar Dynamics Observatory and the Solar Terrestrial Relations Observatory in extreme-ultraviolet bands at three different positions. Based on the extreme-ultraviolet observations, we reconstruct the 3 dimension shock surface. Combined with the Nancay Radio Heliograph observations and the coronal magnetic field extrapolation model, the shock magnetic condition for the source region of the type II radio burst is given: the type II radio burst is generated by a quasi-parallel shock. We also use Rankine-Hugoniot relations to describe the coronal shock at the source region of the burst.