

## Electron heating rate in a transition region of high Mach number shocks

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In a transition region of the terrestrial bow shock and/or interplanetary shocks the presence of reflected ions leads to a variety of microinstabilities. Although they are thought to result in electron heating and acceleration, observational evidences are seldom in the bow shock. On the other hand, strong synchrotron radiation of electrons is emitted from supernova remnant shocks. In this study dependences of electron heating rate in a transition region of high Mach number shocks on upstream plasma parameters are investigated by utilizing quasilinear analysis.