

M30a Numerical study of fast and slow MHD waves in heating magnetic chromosphere by realistic simulation

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The problem of how to heat the magnetic chromosphere is still under debate. MHD waves are considered as important energy transporter and make contribution to heating. Previous researches usually discuss propagation of MHD waves in the chromosphere in detail but the setting of flux tube and wave generation is artificial. There are also studies by realistic simulation but they are usually used for spectra synthesizing for comparison with observations, without discussing detail physical processes. In our study, we perform two-dimensional realistic MHD simulation. We separate fast and slow MHD waves by identifying the relation between directions of magnetic field and velocity. We further estimate the contribution to the heating through the measurement of local radiative loss by slow wave and fast wave and conclude that fast wave plays a more dominant role in heating the magnetic chromosphere.