
Probing the structure of local magnetic field of solar features with helioseismology

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Abstract

Motivated by the problem of local solar subsurface magnetic structure, we have used numerical simulation to investigate the propagation of waves through a bundles of magnetic flux tubes. A cluster model can be a good approximation to simulate sunspots as well as solar plage regions which are composed of an ensemble of compactly packed thin flux tubes. Simulations of this type provide a simple, efficient, and robust way to probe the structure and the dynamic of various solar features which are related directly to solar magnetic field and coronal heating process.

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