

DYNAMICAL COUPLING OF THE SOLAR PHOTOSPHERE TO THE CORONA (INVITED REVIEW)

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SOHO and TRACE have clearly demonstrated that the solar atmosphere and its magnetic structures are highly inhomogeneous at almost all spatial and time scales. Would the ubiquitously magnetic solar atmosphere have any effects on solar global oscillations? Does the random nature of the solar atmospheric plasma influence the characteristics of the observed global modes? Fundamental questions like these naturally arise. In my review I will demonstrate the mechanism of magnetic coupling of the solar interior to the atmosphere that takes place in the Sun. I will discuss how the solar global oscillation can (resonantly) interact with the overlaying magnetic carpet and solar atmosphere.

Solar global acoustic oscillations are also traditionally considered to be somewhat less important for the *dynamics* of the solar atmosphere ranging from low chromosphere to the tenuous corona. This thinking may have also been considerably changed in light of the currently available high spatial and time resolution observations and their MHD modelling allowing us to perform advanced magnetic atmospheric seismology. In the second part of my talk I will discuss the new data and how they can be used for atmospheric diagnostics, including topics such as randomly heated coronal loops or even short-lived dynamical events like spicules, their formation and impact on coronal and space plasmas.