CHROMOSPHERIC FINE STRUCTURE

SYMPOSIUM No. 56

Just as it is now clear that much of the chromospheric fine structure is associated with the network bordering supergranule cells, it seems equally clear that structural features are almost universally associated with both fluid flow and magnetic geometry. Indeed, many observers claim that the brightness features faithfully map the magnetic lines of force while still others claim that associated with each class of brightness feature there is a more or less unique fluid flow.

Fluid streaming and wave phenomena associated with fine scale features of the solar atmosphere represent the transport of non-radiative energy that, in turn, heats the chromosphere and corona. Most of what astronomers now casually classify as 'micro-' and 'macro-turbulence' undoubtedly arises from these combined streaming and wave motions. Thus, an understanding of the fluid motions associated with chromospheric fine structure appears to be fundamental to both the interpretations of line broadening and mechanical energy transport in the Sun. Similarly, the concentration of magnetic flux in the network and the strong correlation between regions of enhanced magnetic flux, increased chromospheric brightness (in all spectral regions) and increased flow speeds suggest that the magnetic field is in some way important to the very existence of the chromosphere and corona.

(continued on backflap)

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