

# THE NATURE OF RUNNING PENUMBRAL WAVES REVEALED

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Spectropolarimetric time series data of the primary spot of active region NOAA 9451 were obtained on 2001 May 9 in the photospheric Si I 10827 Å line and the chromospheric He I 10830 Å multiplet with the Tenerife Infrared Polarimeter. Throughout the time series the spectrograph slit was fixed over a region covering umbra, penumbra, and quiet sun. We present an analysis of running penumbral waves in the chromosphere, their Fourier phase difference relations to both photospheric and chromospheric umbral oscillations, and their dependence on the magnetic field topology.