

HELIOSEISMIC DETECTABILITY OF SOLAR MERIDIONAL FLOW

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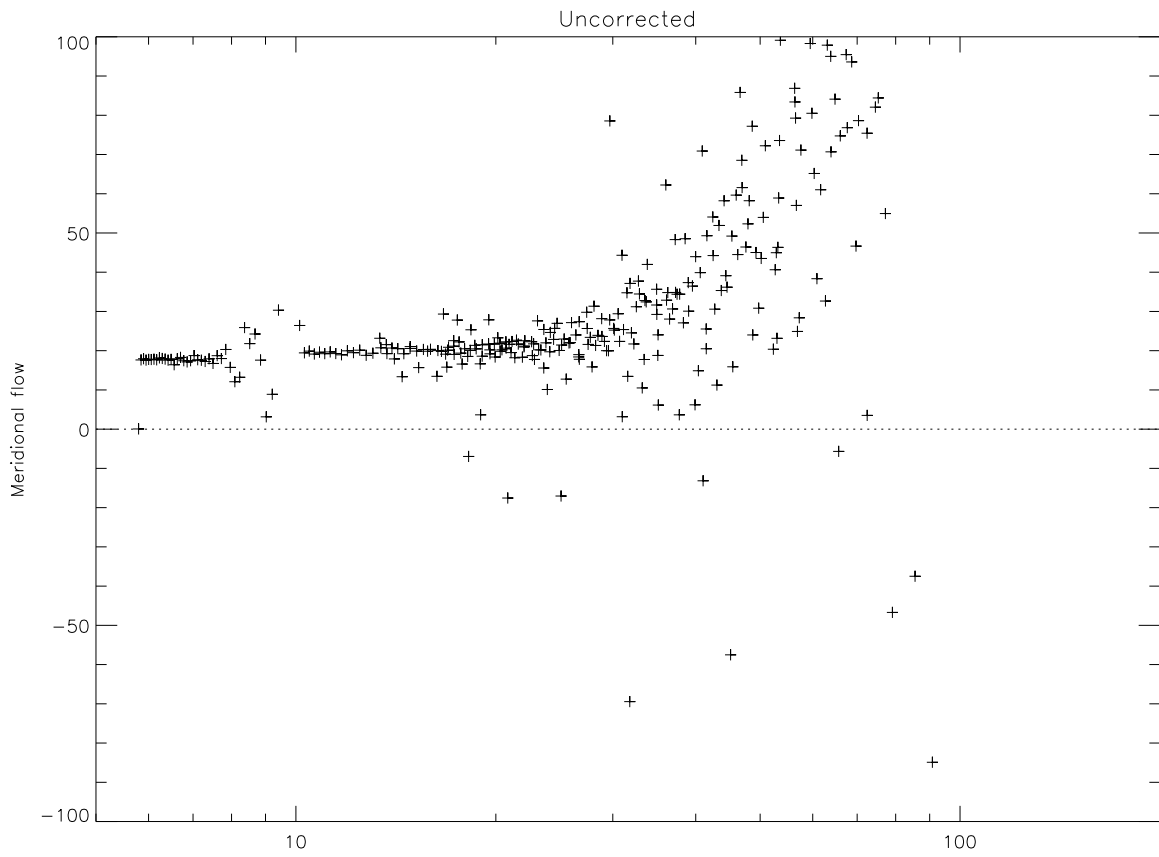


Figure 1: Radial averages of the amplitude of the quadrupole component of the solar meridional flow velocity, obtained from a simple fit to HMI spherical-harmonic cross spectra.

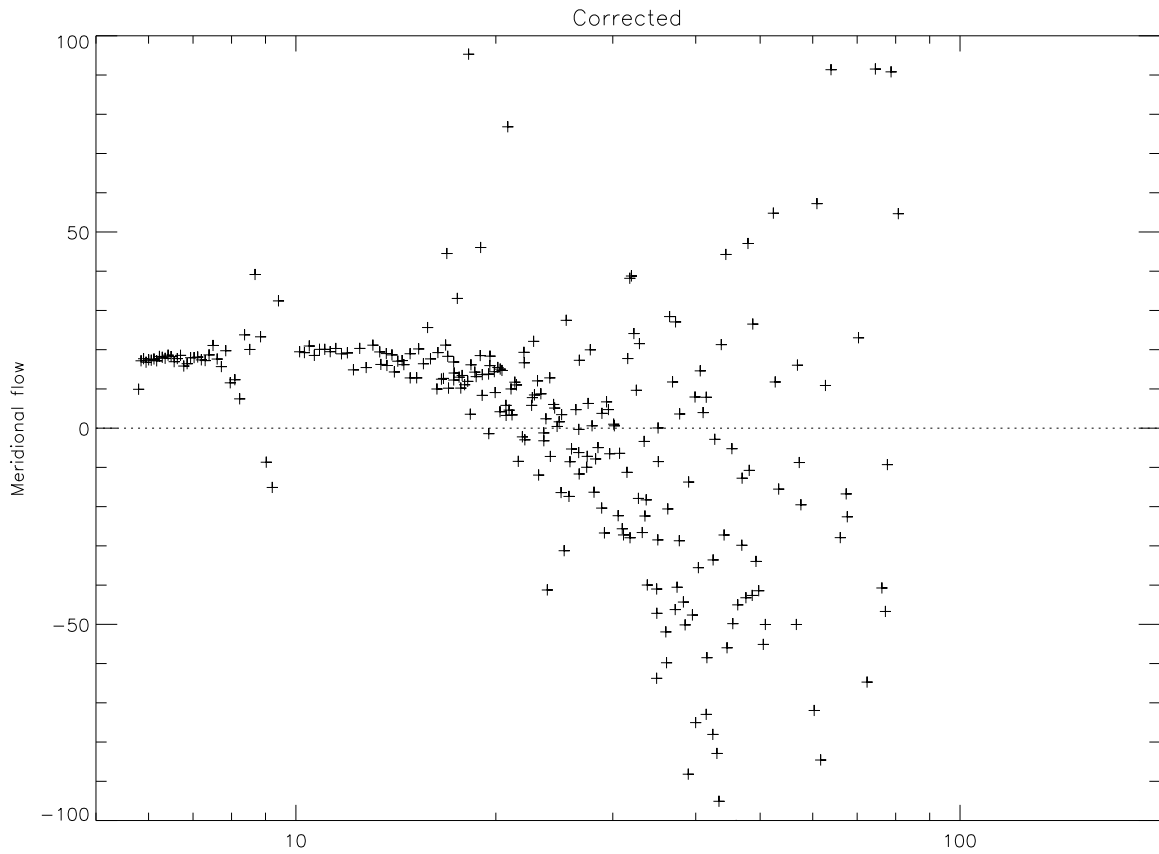


Figure 2: Radial averages of the solar meridional flow velocity, as in Figure 1, obtained by fitting HMI cross spectra to a combination of a meridional flow velocity and a center-to-limb pseudo flow.

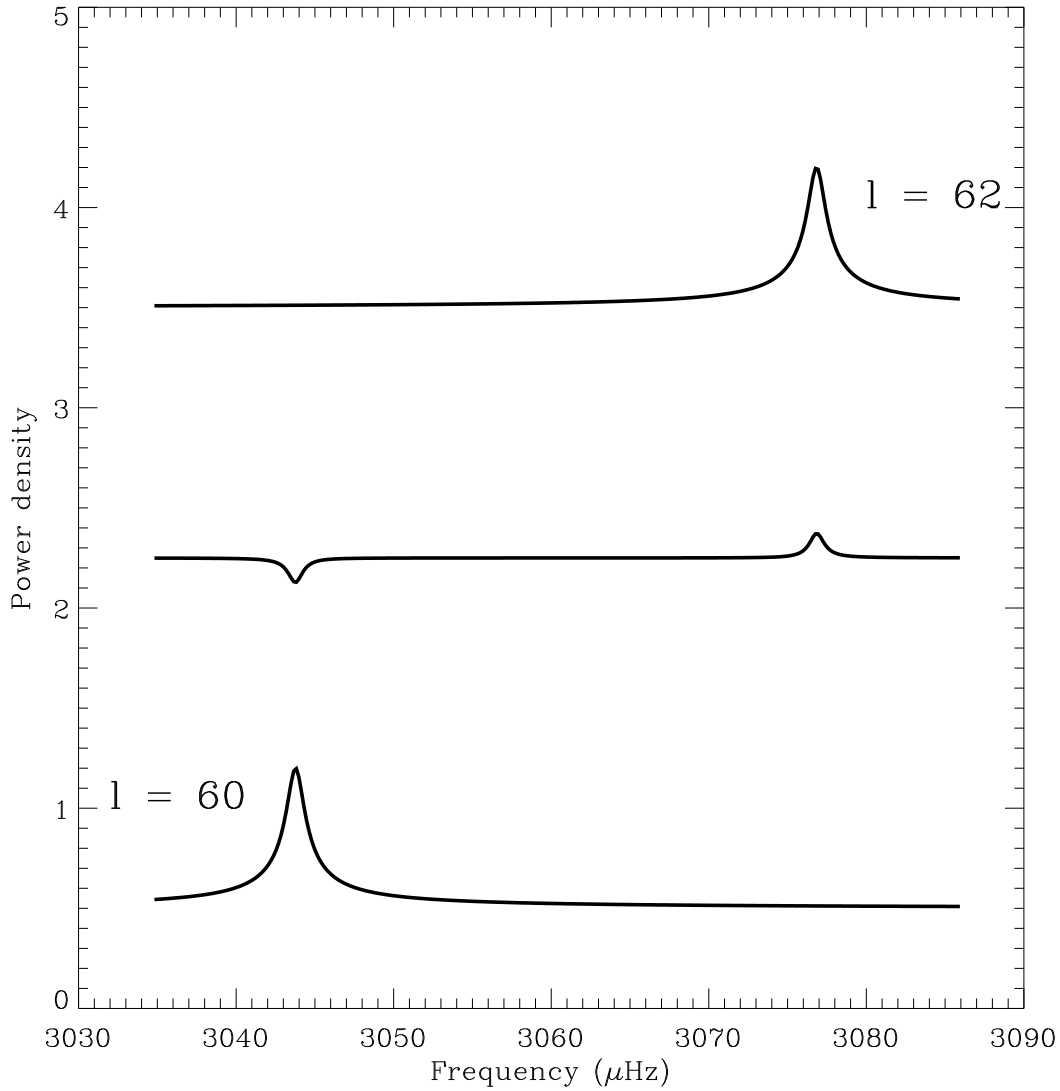


Figure 3: Top and bottom curves: theoretical amplitude spectra of two global oscillation modes of the same n ($= 9$) and m ($= 20$), with l differing by 2. Middle curve: theoretical cross spectrum of the spherical-harmonic time series of the two, dynamically-coupled, modes.

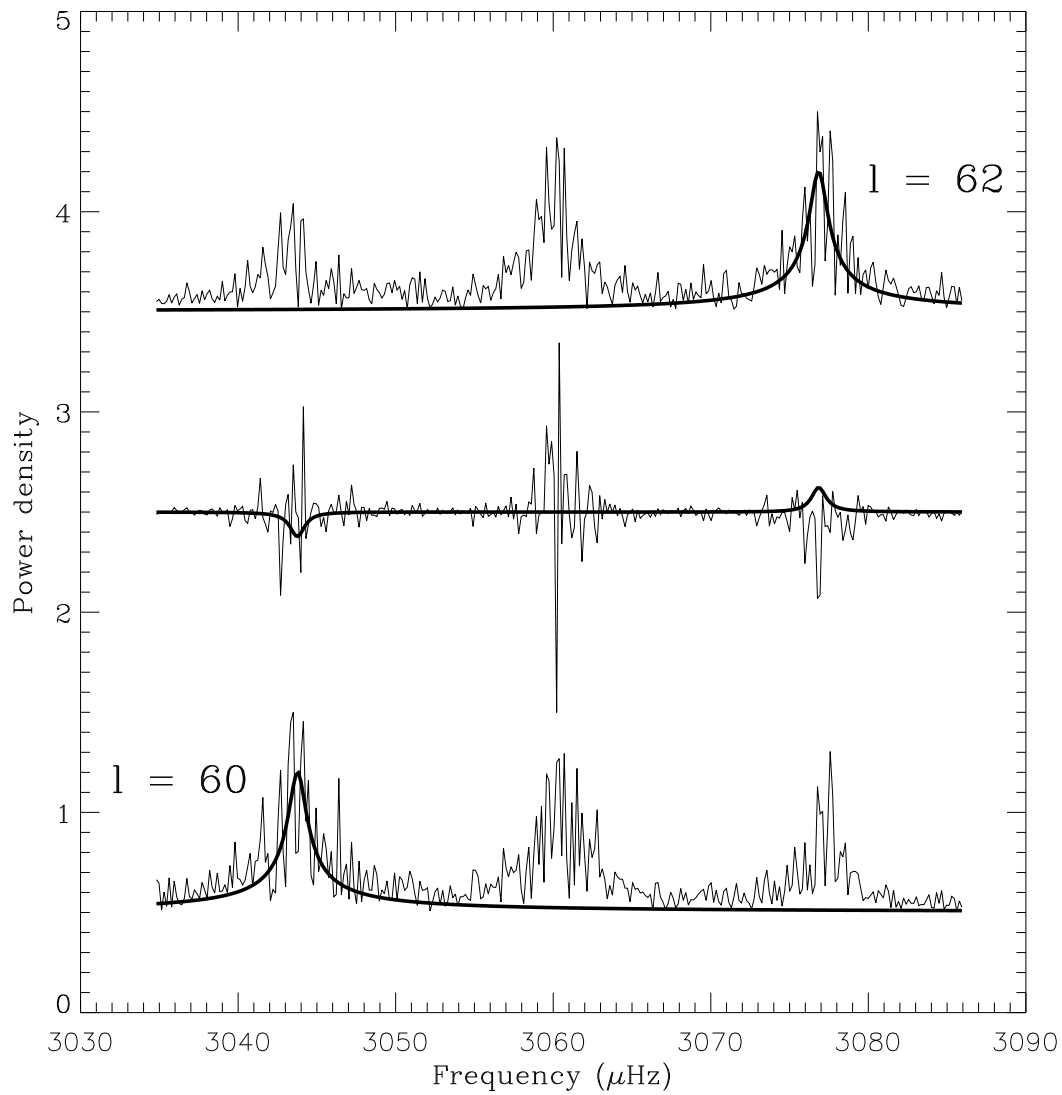


Figure 4: Spectra computed from MDI spherical-harmonic time series, superimposed on the ideal spectra of Figure 3.

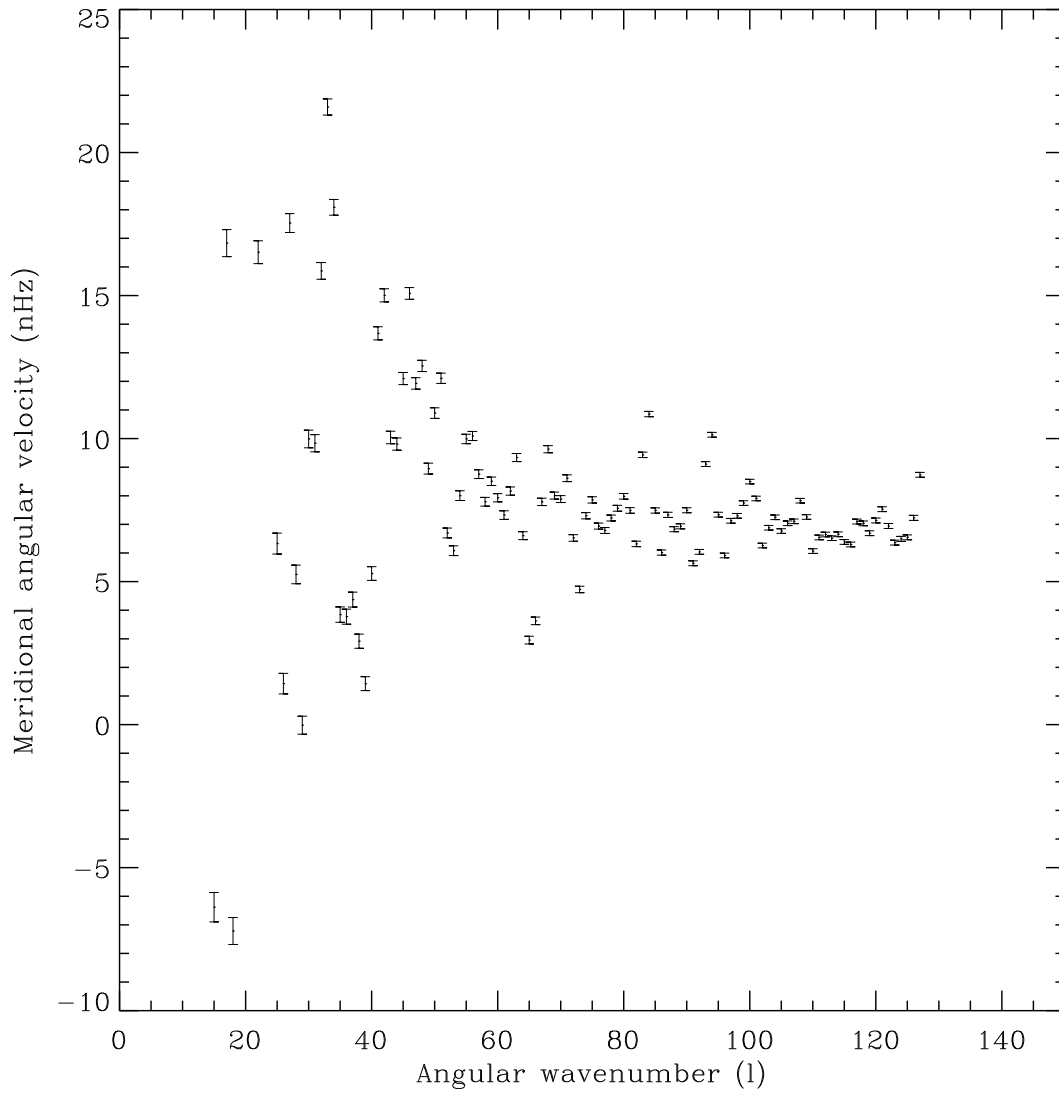


Figure 5: Radially weighted averages (as in Figure 1) of the meridional flow velocity for modes of a single radial order ($n = 7$) as a function of angular wavenumber (l). Formal errors are the theoretical expectations for idealized (‘whole Sun’) observations.