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Solar Plasma Flows and Convection in Oblique Magnetic Fields¹ CHRISTINA SMITH, E.J. ZITA, The Evergreen State College, NEAL HURLBURT, Lockheed Martin Solar and Astrophysics Laboratory — Moving charges in the Sun's plasma create a complex network of magnetic fields. This is at the heart of dynamic solar events, such as active regions, sunspots, and coronal mass ejections. We study magnetoconvection, the motion of magnetized ionized fluids (plasmas), to better understand the Sun. Models of solar magnetoconvection often assume simplified magnetic fields that are either completely vertical or horizontal. Realistic fields, however, are often inclined at oblique angles. We analyze high resolution data from the Solar Optical Telescope on the Hinode spacecraft, and compare velocities with magnetic field inclinations. We then compare results with predictions from a numerical model of nonlinear compressible convection in oblique magnetic fields.

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