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**Magnetic Braking of Jovian Jet Flows** ASHNA AGGARWAL, UCLA, SUSANNE HORN, Coventry University, JONATHAN AURNOU, UCLA — The azimuthally-directed jet flows of the gas giants, Jupiter and Saturn, are amongst their most dominant surface features. Recent Juno gravity measurements have inferred that the zonal jets of Jupiter extend from the weather layer, where they are directly observed, down at least 3,000 km deep into the H-He molecular atmosphere. In addition, Jupiter's electrical conductivity increases as the molecular envelope transitions to a liquid metal. As electrical conductivity increases, the strength of magnetic forces grows, acting as a resistive brake on the jet flows. We have developed a pseudo-spectral code that solves the Cartesian Navier-Stokes equations in 2-D with buoyancy and a quasi-static magnetic field to quantify the process of magnetic braking, thought to truncate the Jovian jets. We will present the results of a suite of direct numerical simulations (DNS) of shearing convection, similar to Goluskin et al., (J. Fluid Mech. 759, 360, 2014), where we vary the strength of an imposed transverse magnetic field. Depending on the value of the magnetic field, the jets are damped, strongly intermittent, or fully suppressed.

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