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Searching for the Evidence of Reduction of Viscous Potential for Northward Interplanetary Magnetic Field DENVER SCOTT, MICHAEL MISHLER, AARON BACA, SHREE BHATTARAI, RAMON LOPEZ, University of Texas of Arlington — Solar wind consists of ionized particles originating from the Sun that carries along with it the solar magnetic field, which we call the interplanetary magnetic field (IMF). The interaction of solar wind with the geomagnetic field occurs mainly by two different processes: viscous interaction and magnetic reconnection. The viscous interaction is generated due to velocity shear across the magnetopause forming a circulation pattern in the magnetosphere. Magnetic reconnection occurs in strongly conducting plasma, where magnetic fields realign and magnetic energy is transformed into kinetic, and/or thermal energies. The result of viscous interaction and magnetic reconnection during northward IMF produces a four-cell convection pattern in the ionosphere. We will be using OMNI data to obtain sustained, strong northward Bz, and analyze the ground based SuperDARN (Super Dual Auroral Radar Network) data in an attempt to see if the viscous potential is reduced for northward IMF during periods when Bz was three times greater than the magnitude of By.

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