## Exploring the Viscous Interaction in an MHD Simulation using a Variety of Solar Wind Parameters

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The viscous interaction is one of the basic modes by which solar wind energy and momentum are transferred into Earth's magnetosphere. This interaction can produce a significant contribution to the transpolar potential, called the viscous potential. However, due to constantly fluctuating solar wind conditions, it is generally difficult to isolate the portion of the transpolar potential due only to the viscous interaction. One way to deal with this limitation is to use simulations, which allow for precise control of solar wind parameters. We use the Lyon-Fedder-Mobarry (LFM) global 3-D magnetohydrodynamic simulation to observe how a variety of solar wind and magnetospheric parameters affect the viscous potential. These results will be compared to empirical functions representing the viscous potential that have been used in previous work. Comparisons between simulation results and satellite measurements will also be made.