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Estimating the viscous potential value using SuperDARN data MICHAEL MISHLER, DENVER SCOTT, AARON BACA, SHREE BHATTARAI, RAMON LOPEZ, University of Texas of Arlington — The solar wind flowing around the magnetosphere causes tail-ward dragging of the magnetospheric plasma, which in turn causes a return flow deeper inside the magnetosphere, thus producing a circulation pattern called the viscous circulation pattern. This plasma circulation pattern gets mapped into the ionosphere via magnetic field lines, thus imposing an electric field in the ionosphere. This field can be measured in terms of an electric potential which is known as the viscous potential. In this paper, we will use the electric potential values obtained from SuperDARN (Super Dual Auroral Network) during weak IMF (Interplanetary Magnetic Field) conditions (|By| < 1, and -0.5 < Bz <0) to estimate the viscous potential value.

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