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Dayside reverse plasma flows for northward IMF as seen by the SuperDARN and RISR-C radars (G)*

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Plasma flow patterns at northward-oriented IMF are not well defined. For example, near noon sunward flows (reverse flows) often deviate from the midnight-noon meridian and the amount of deviation can be as large as several hours of magnetic local time. Over the last several years, significant data on reverse flows have been accumulated in the Canadian sector of Arctic where three PolarDARN radars routinely produce global-scale plasma flow maps while the RISR incoherent scatter radars at Resolute Bay provide more localized information. In addition, polar cap SuperDARN radars in the southern hemisphere monitor plasma flows in about the same magnetic local time sector. In this study, we investigate the meridional sunward flows in both hemispheres, their response to IMF turnings as well as the shape and location of the reverse convection cells.

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