

Two types of injection region in the cusp for northward IMF as deduced from ENA observations

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The Low-Energy Neutral Atom (LENA) imager on the IMAGE spacecraft observes neutral atom signals in the direction of the high-latitude magnetopause for northward IMF. These signals have been interpreted to be due to the ion injection from cusp reconnection. We examined relations between the count of these LENA cusp signals and the IMF clock angle. Results of analyses show that the injection region for IMF clock angles of 0 to about 45 degree and that for clock angles of 45 to 75 degree appear in a different location, and that the latter extends more dawnward. We discuss this result in terms of location of the reconnection, and explain observations in previously published papers in terms of these two types of injection region.