

## Plasma sheet energetic injection electron precipitation: a THEMIS-ELFIN-DMSP conjunction event

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Acknowledgements:

Science teams of ELFIN, DMSP and THEMIS for use of data

Context of the conjunction: auroral substorm observed by DMSP

SSUSI LBHL

0.1



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T01 mapping

AACGM Lat

F17



Two thin growth-phase arcs at the equatorward and poleward boundaries of the plasma sheet

Auroral expansion with varying and multi-scale optical and precipitation structures

## THEMIS injection and ELFIN energetic electron precipitation



wave-driven energetic precipitation within expanded plasma sheet

## What plasma waves can account for plasma sheet injection electron precipitation?



kinetic Alfvén waves + time domain structures within the start of the injection lower-hybrid waves + chorus waves + ECH waves behind the front parallel-chorus in the plasma sheet less effective in scattering >50 keV electrons

e.g., Ni et al., 2016, SSR Ghaffari et al., 2021, GRL