

R006-P24

ポスター 1 : 9/24 PM1/PM2 (13:45-18:15)

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Evolution of subauroral polarization streams as observed during SuperDARN-Arase conjunctions in Fall 2022

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A comparative study on two subauroral polarization streams (SAPS) is conducted based on simultaneous observations of the Super Dual Auroral Radar Network (SuperDARN) and the Arase satellite during the Fall 2022 SuperDARN-Arase campaign observations. The purpose of this study is to investigate how the ion injection front evolves in the equatorial magnetosphere as a SAPS emerges and subsequently intensifies. Both two SAPS events occurred in association with weak ($AL > -200$ nT) substorms. The westward flow including that of the auroral oval was distributed primarily at magnetic latitudes of ~ 67 deg to ~ 75 deg over the dusk to evening sector, while the footprint of Arase was located around ~ 17 - 18 magnetic local time. Despite those similarities in the spatial configuration, however, Arase saw a series of energetic ion flux enhancements due to substorm injection at almost the same timing as a SAPS intensified in one of the two events, while it saw injected energetic ions with a significant time delay (~ 20 min) from the SAPS appearance in the other event. We speculate that the Arase position relative to the injection fronts was different between the two events, causing the observed difference in timing of the injection encounter. In the talk, more detailed results of the observations made by other satellites and ground instruments are presented and further discussed in terms of the evolution of SAPS and the ring current ions.