

R006-56

Zoom meeting B : 11/4 AM2 (10:45-12:30)

11:15-11:30

サブストーム回復相におけるオーロラオーバル低緯度側境界からのオーロラアークの分離

#塩川 和夫<sup>1)</sup>, 稲葉 裕大<sup>1)</sup>, Connors Martin<sup>2)</sup>

<sup>1)</sup>名大宇地研, <sup>2)</sup>Centre for Science, Athabasca Univ.

## Detachment of auroral arcs from the equatorward boundary of the auroral oval during substorm recovery phase

#Kazuo Shiokawa<sup>1)</sup>, Yudai Inaba<sup>1)</sup>, Sneha Yadav<sup>1)</sup>, Martin Connors<sup>2)</sup>

<sup>1)</sup>ISEE, Nagoya Univ., <sup>2)</sup>Centre for Science, Athabasca Univ.

Formation of auroral arcs and their motion are manifestation of plasma dynamics in the magnetosphere. In this presentation, we show a common feature of auroral arc detachment from the equatorward boundary of the auroral oval, which occurs mainly during substorm recovery phase. After the expansion onset of auroral substorms, the equatorward boundary of the auroral oval can expand to lower latitudes. Around the beginning of the substorm recovery phase, the equatorward boundary of the oval starts to retreat back to higher latitudes. At this time, equatorward detachments of weak auroral arcs are often seen in both 630.0-nm and 557.7-nm images and north-south keograms at subauroral latitudes. The detached arcs can later become Stable Auroral Red (SAR) arcs [e.g., Shiokawa et al., AIP, 2009; EPS, 2017; Takagi et al., GRL, 2018] and/or STEVE [e.g., Gallardo-Lacourt et al., JGR, 2018]. We will discuss possible mechanisms that can create this auroral arc detachment from the auroral oval in the context of magnetospheric plasma processes.

Gallardo-Lacourt et al. (JGR, 2018) <https://doi.org/10.1029/2018JA025368>

Shiokawa et al. (AIP Conf. Proc., 2009) <https://doi.org/10.1063/1.3169292>

Shiokawa et al. (EPS, 2017) <https://doi.org/10.1186/s40623-017-0745-9>

Takagi et al. (GRL, 2018) <https://doi.org/10.1029/2018GL079615>