

オーロラ爆発と脈動オーロラの昭和基地-あらせ衛星-チョルネス共役観測

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Syowa-Arase-Tjoernes conjugate observation of auroral breakup and pulsating aurora

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Auroral breakup and subsequent pulsating aurora were observed by ground-based high-speed imagers at Syowa station in Antarctica and at its magnetic conjugate station, Tjoernes in Iceland simultaneously on 22 September 2018. Arase satellite was located on the magnetic field line connecting these two stations at that time and observed sudden increase in electron fluxes and following decrease of geomagnetic y -component, and subsequent chorus emissions. The auroral breakup was characterized by its large longitudinal displacement of the initial brightening position in both hemispheres, while the subsequent pulsating auroras showed good conjugacy. The variation of chorus emission intensity observed by the Plasma Wave Experiment onboard Arase satellite shows a good correlation with the intensity variation of pulsating aurora. We report the whole sequence of the event to examine the difference of the conjugate points derived from the observations and from several magnetic field models.