

Azimuthal propagation of luminosity during multiple arc events

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Auroral dynamic was investigated during several multiple arc (MA) events observed at the Lovozero, Loparskaya and Barentsburg observatories. We emphasized on the azimuthal propagation of aurora luminosity. For the events in premidnight sector it was shown that every arc appears at the east border of TV-camera field of view and then expands westward with the velocity of about ~5 km/s at the ionosphere altitude. Appearance of MA is associated with the development of aurora bulge on the POLAR UVI images east of the observatory, so the each arc seems to be originated from that area. The result does not comport with the theory describing the MA as the resonant Alfven oscillations of magnetosphere. The possible interpretation of MA in term of the convection instability is discussed.