

脈動オーロラの超高速変動

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Pulsating aurora beyond the ultra-low-frequency range

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Pulsations, irregularly switching on and off in the brightness with typical durations of an order of 2 to 20 seconds, are a fundamental characteristic of post-midnight aurora. Although pulsating aurora is weak compared with those of quiet arcs or breakups, a cutting-edge sensitive high-speed camera is now capable of detecting the faint aurora with more than several hundred frames per second. Here we report the fastest-ever-observed fluctuation superimposed on a pulsating aurora, which is more than an order of magnitude faster than well-known 3 Hz modulation. The exact generation mechanism remains unknown, and we discuss two different possibilities of the modulation source at the equatorial magnetosphere and at the magnetosphere-ionosphere coupled region.