

Aurora observations by a spectrograph at Tromsø, Norway

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We developed a compact spectrograph in the University of Electro-Communications. The spectrograph is capable of measuring optical emission intensity in mainly visible range with a resolution of ~ 1.6 nm, and the aperture, i.e. F-number, is ~ 4 . We installed the spectrograph in European incoherent scatter (EISCAT) radar site, Tromsø, Norway (69.6°N , 19.2°E), and started unmanned nighttime operation on 4 October 2016. The field-of-view (FOV) of the spectrograph is pointed at magnetic field-aligned direction, and the data sampling rate is 1 Hz. Since then, aurora observations have been performed continuously during the last winter. During the period, we successfully obtained more than 8,000,000 data, which include many kinds of aurora, e.g., pulsating aurora. In the presentation, we will introduce the spectrograph and report initial results from the aurora observations in EISCAT Tromsø site.