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Observation of E-region neutral winds associated with auroral activity by the newly developed Fabry-Perot Imager at Syowa Station

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It is well known that there exists neutral wind field associated with aurora activity in the polar thermosphere. However, its dynamics has not been clarified yet in detail. Particularly, the wind field in E region is not fully understood. A newly developed Fabry-Perot Imager (FPI) was installed at Syowa station, Antarctica by the JARE-42 in order to make observations of thermospheric neutral wind. We are making analysis of OI557.7nm data obtained with the FPI to study the E region neutral wind since the emission altitude lies in the E region. The new FPI consists of a fish-eye lens (F2.8 f=8mm) as an objective, a Fabry-Perot etalon with a clear aperture of 150mm and a spacing of 15mm, and a back-illuminated cooled CCD camera with 1024X1024 pixels which takes images of the sky with 150 degree FOV. Image data are taken every two minutes with exposure time of 30 sec. Observation was made on 71 nights in the 2001 winter season, which was from March 31 through October 16. A digital all-sky camera (ASC) was operated simultaneously with the FPI. We are analyzing the OI557.7nm data of FPI along with the ASC image data in order to examine E region wind associated with aurora activity. In the presentation, the results will be presented.