

# **The Variations of the Fair-weather Atmospheric Electric Field at Syowa station**

Yasuhiro Minamoto<sup>1</sup>, Masashi Kamogawa<sup>2</sup> and Akira Kadokura<sup>3</sup>

<sup>1</sup>*NPO Mount Fuji Research Station*

<sup>2</sup>*University of Shizuoka*

<sup>3</sup>*National Institute of Polar Research, Research Organization of Information and Systems,*

Diurnal variations of atmospheric electric field (AEF) do not follow local time at the observation site. This variation, called “Carnegie Curve”, is understood as a DC component in global electric circuit (GEC). However, the AEF is disturbed by local environment and weather, e.g., convective clouds and precipitation. When the AEF is not affected by these local disturbance, such a period is called as fair-weather condition. In order to analyze the GEC, it is necessary to identify the observed values under the fair-weather conditions.

We proposed a quantitative criterion to identify the fair-weather conditions, using the observed values at nearby devices. Furthermore, we will examine seasonal variations of the AEF diurnal curves and the effect of the geomagnetic disturbances on the observed AEF by using the fair-weather AEF data at Syowa Station.