

**Measurement of Charge Density inside the Nonthunderstorm Clouds
on 2012 BEXUS Balloon Campaign**
Non-Thunderstorm Electrified Clouds

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We measure an atmospheric electric field inside the nonthunderstorm clouds, because the studies of the electric charge structures inside the nonthunderstorm clouds have been few. For this purpose, a balloon with a gondola equipped with a field mill was used in balloon experiments for university students (BEXUS) organized by Europe Space Agency (ESA). From the experiment, two peaks of positive atmospheric electric field were observed, so that simple charged spherical model is constructed. We estimated the charge density, $4 \times 10^{-11} - 7 \times 10^{-11} \text{ C/m}^3$ in the positively charged region, following the results of Imyaninov and Chubarina (1965) who reported that the density of positive charge inside the nonthunderstorm cloud is approximately $3 \times 10^{-10} \text{ C/m}^3$.