

## GPS-TEC dependence on solar zenith angle observed in solar flares

# Jun Sato[1]; Takayuki Sadakane[2]; Takuya Tsugawa[3]; Yuichi Otsuka[3]; Satoshi Masuda[4]

[1] Graduate School of Environmentan Studies, Nagoya Univ; [2] Electrical and Electronic Engineering ,Nagoya University;  
[3] STE Lab., Nagoya Univ.; [4] STEL, Nagoya Univ

Solar flare is one of most popular phenomena on the SUN. It releases an enormous energy in short time interval. Solar flare emits high energy photons (EUV, Soft X-rays and so on), and increases the intensity drastically. These emissions have an influence on the ionosphere and we see the increase of TEC-value in GPS observation. We studied GPS-TEC value dependence on solar zenith angle in several solar flares. We revealed that the dependence is different in different solar flares, suggesting flare spectrum in each flare changes the dependence. Using EUV and soft X-ray observation, we try to explain the dependence.