# Statistical properties of intense geomagnetic storms based on extreme value thoery

# Ken Tsubouchi[1]; Yoshiharu Omura[2]; Hiroshi Matsumoto[2]

[1] RISH; [2] RASC, Kyoto Univ.

The method of extreme value analysis is applied to the statistics of geomagnetic storms. Dst-index data set between 1957 and 2001 is used for the storm identification. Intense cases (peak Dst is less than -100nT) are especially focused on, since such an event is of critical importance for the space weather forecast. However, because of its rare occurrence, evaluation by the normal distribution should lead to an underestimate. Extreme value statistics is a useful tool specialized in treating such a rare event statistics accurately. By utilizing this tool, we evaluate the detailed storm occurrence and derive the T-year level (the Dst level which occurs once in T years).