

Latitudinal distribution of extreme ground geomagnetic variations: an extreme value analysis

Swedish Institute of Space Physics

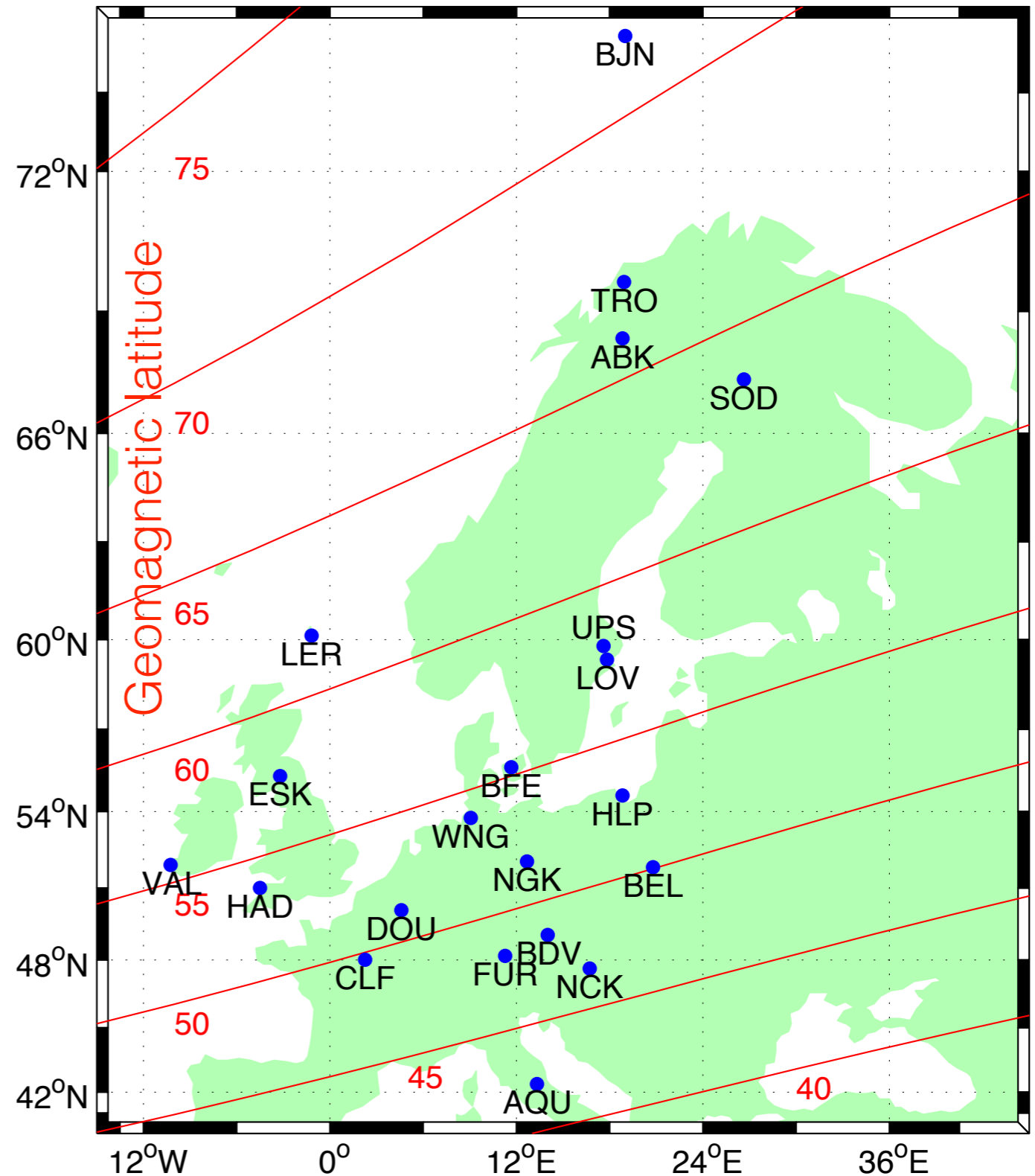
Peter Wintoft, Magnus Wik, and Henrik Lundstedt

peter@lund.irf.se

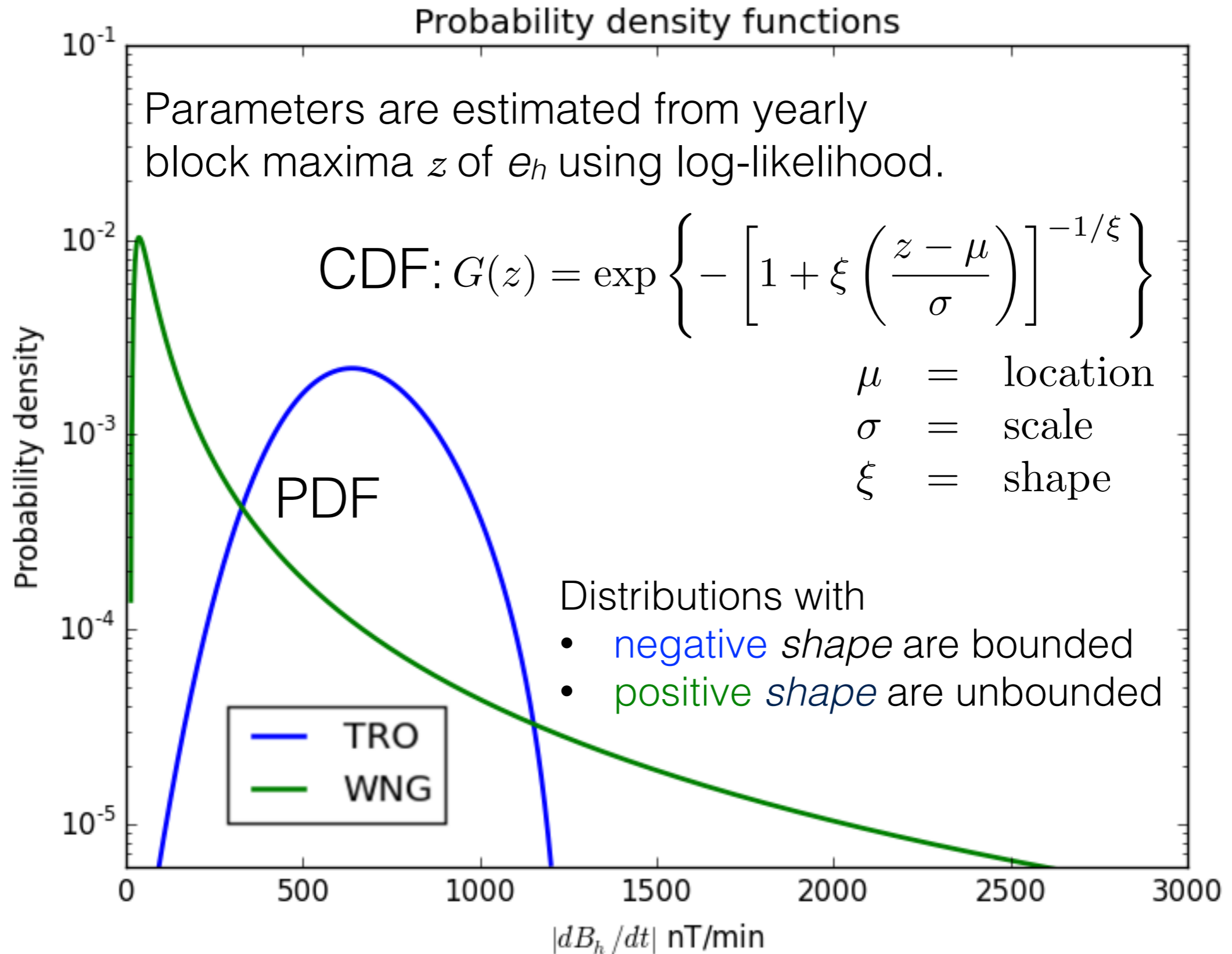


Data used for extreme value analysis

- One-minute geomagnetic data from 21 stations.
- Only stations with at least 18 years of data.
- Data carefully cleaned from spikes and shifts.
- $d\mathbf{B}/dt$ approximated with $\Delta\mathbf{B}$
- Horizontal magnitude of $\Delta\mathbf{B}$ studied: $e_h = |(\Delta B_x, \Delta B_y)|$

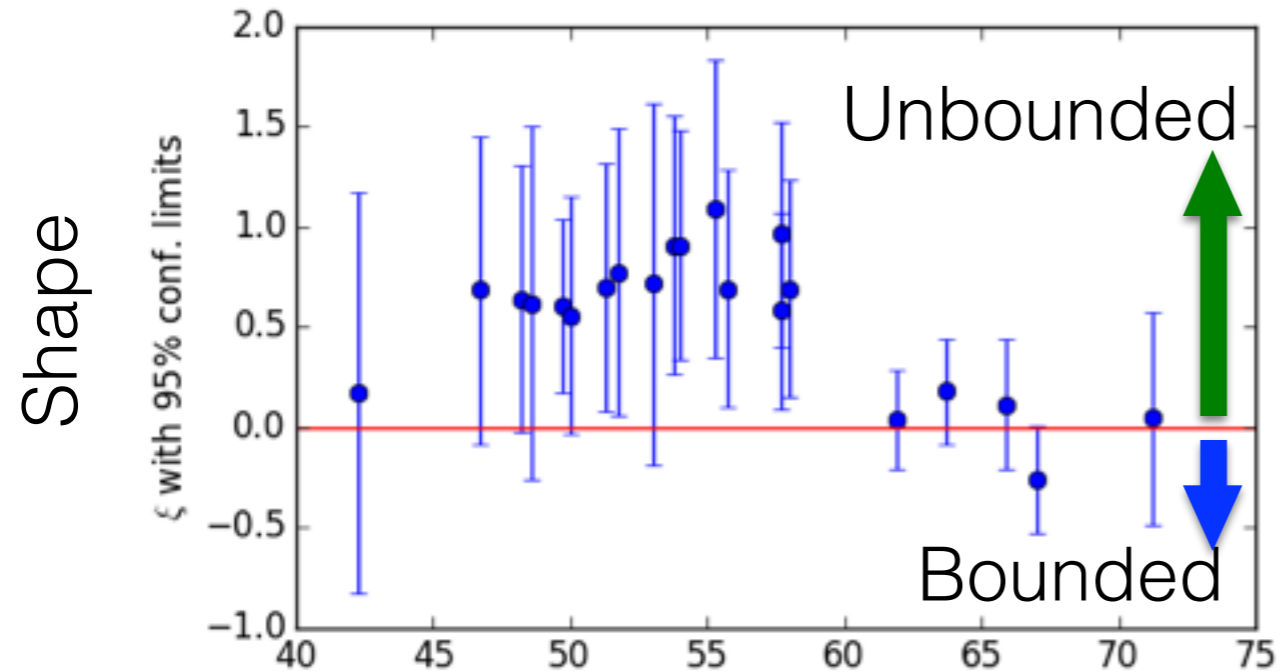


Generalised extreme value distribution

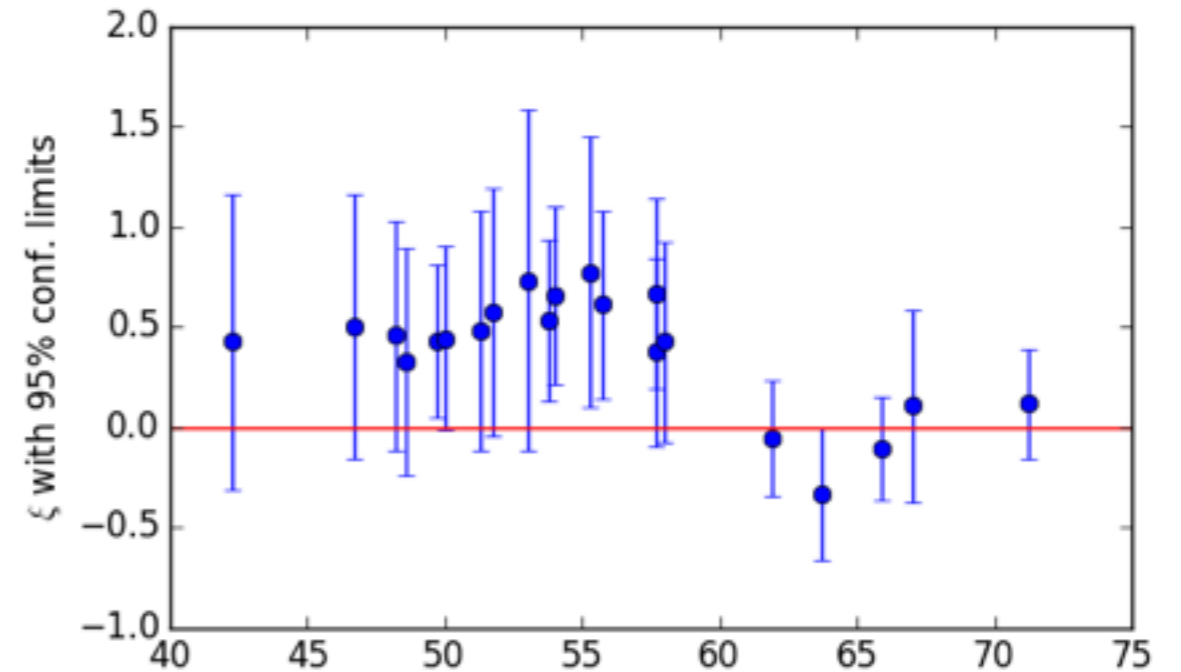


Shape as function of latitude

One-minute e_h



Hourly average e_h



Coefficient of determination

