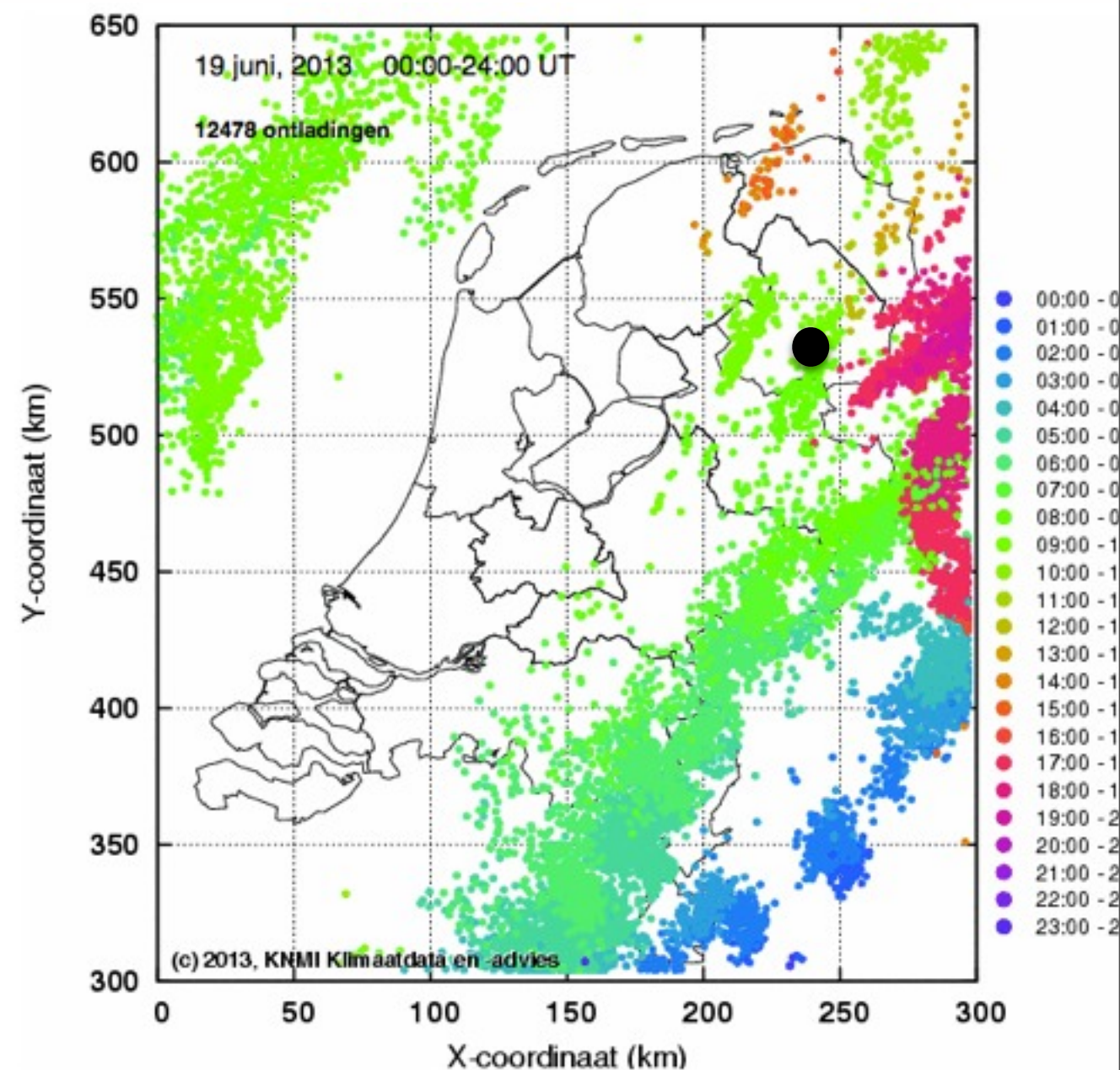
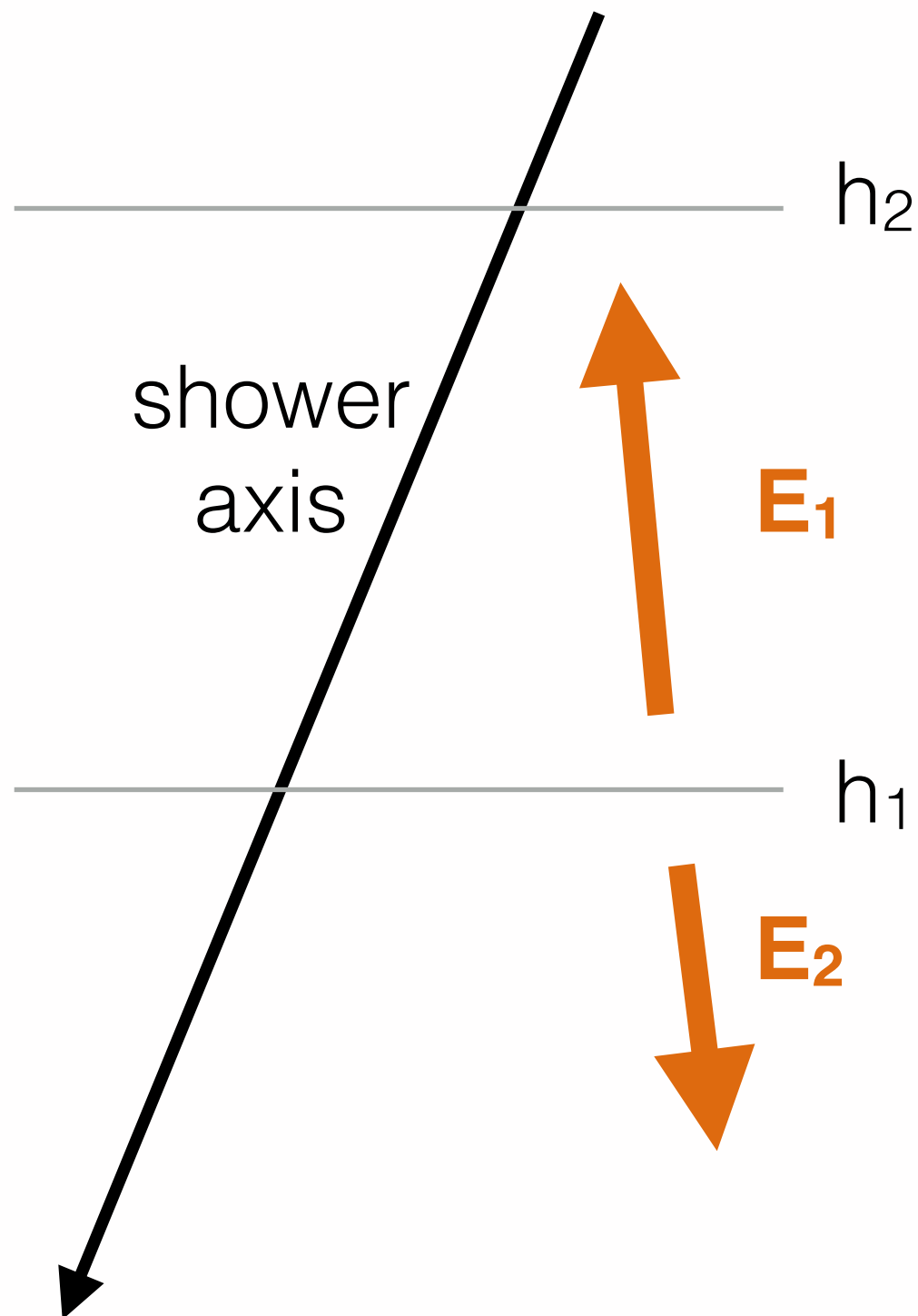


Air showers in thunderstorms

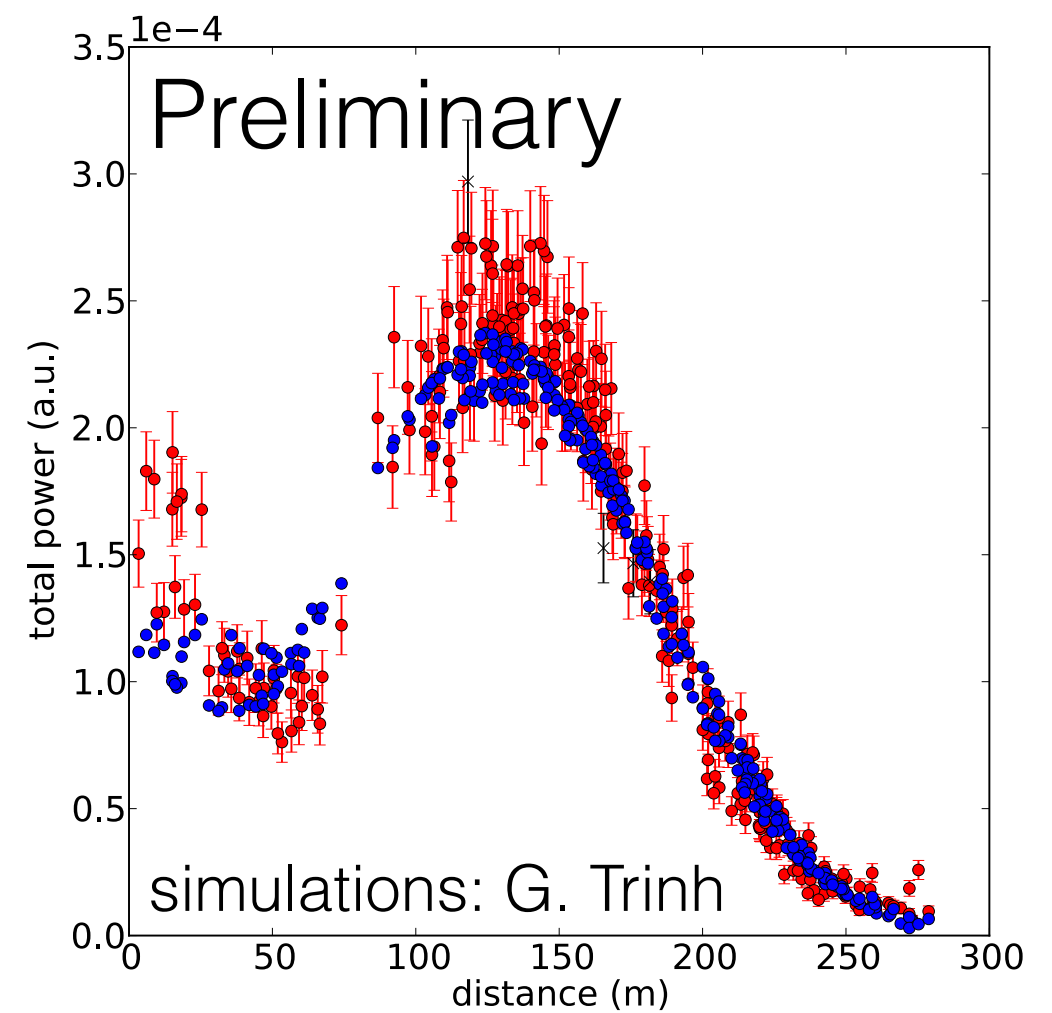
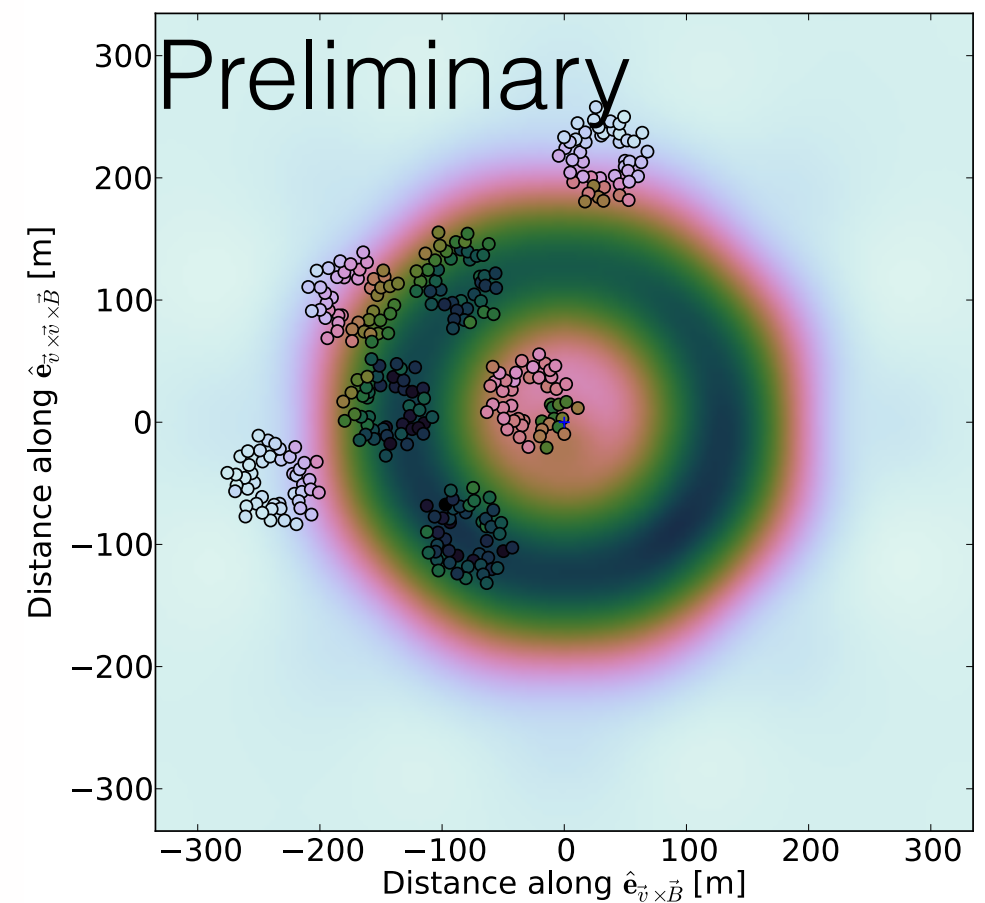
- **Regular:** geomagnetic field induces traverse current ($v \times B$ direction)
- **Strong E-field** ($E \sim cB$): current direction changes
- Air showers in thunderstorms: **different polarisation & different intensity pattern**
- Allows **remote sensing** of thunderstorm fields!



Two layer model



P. Schellart et al. *in prep.*



Thunderstorm events

- What can we infer from two-layer model fits?
Field direction, strength, altitudes?
- Do air showers influence the thunderstorm?
deposit of large amounts of free electrons
formation of streamers.... lightning initiation?
- LOFAR can image electrical processes in the thunderstorm with nanosecond precision!

