The Munich Lightning Detection Network (LINET)

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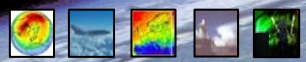
ABS-Gruppe

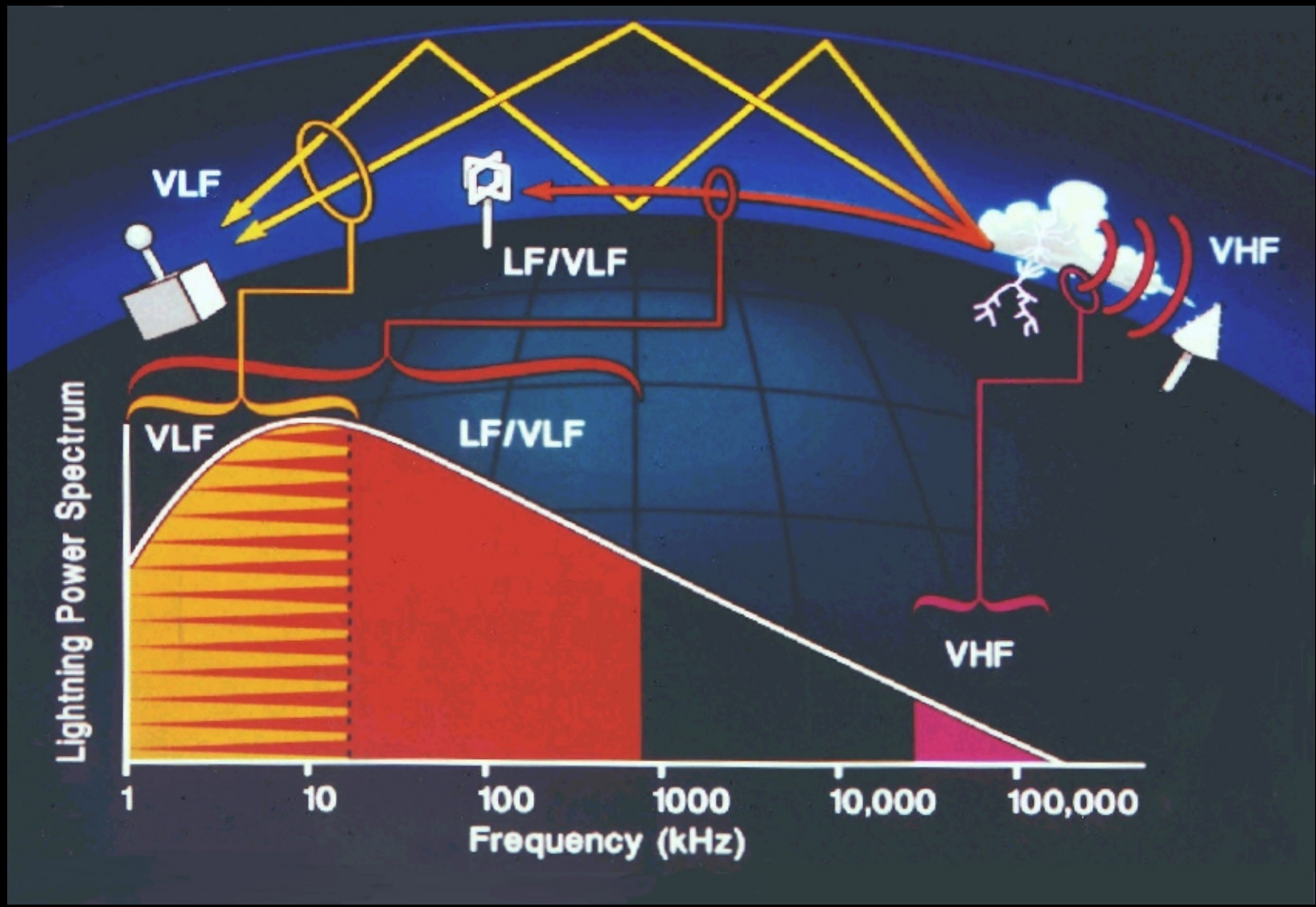


Cooperation DLR – LMU Munich

Installation at Araraquara

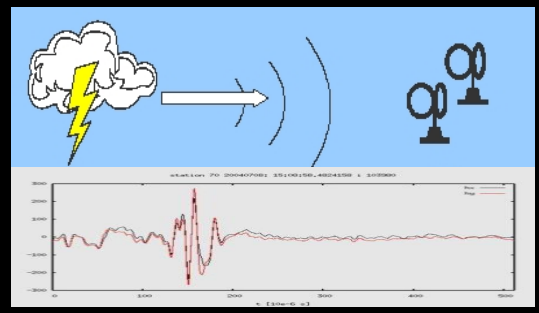
- LINET is a 6-station network for VLF lightning detection
- Operated by DLR in cooperation with LMU, available during TROCCINOX-2
- Developed and build by LMU, routine operations in Southern Germany since 2003
- Cooperative data analysis

Principles of lightning detection

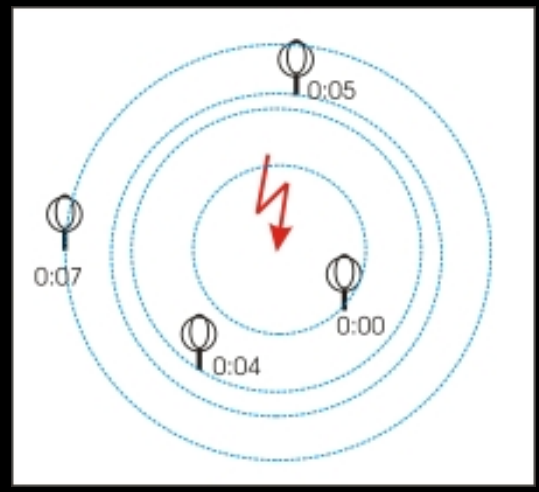


LINET characteristics

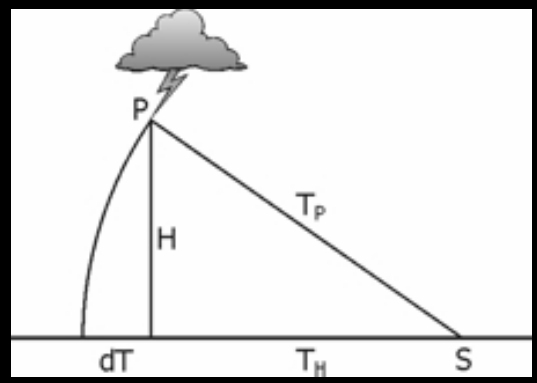
- Measurement of magnetic field



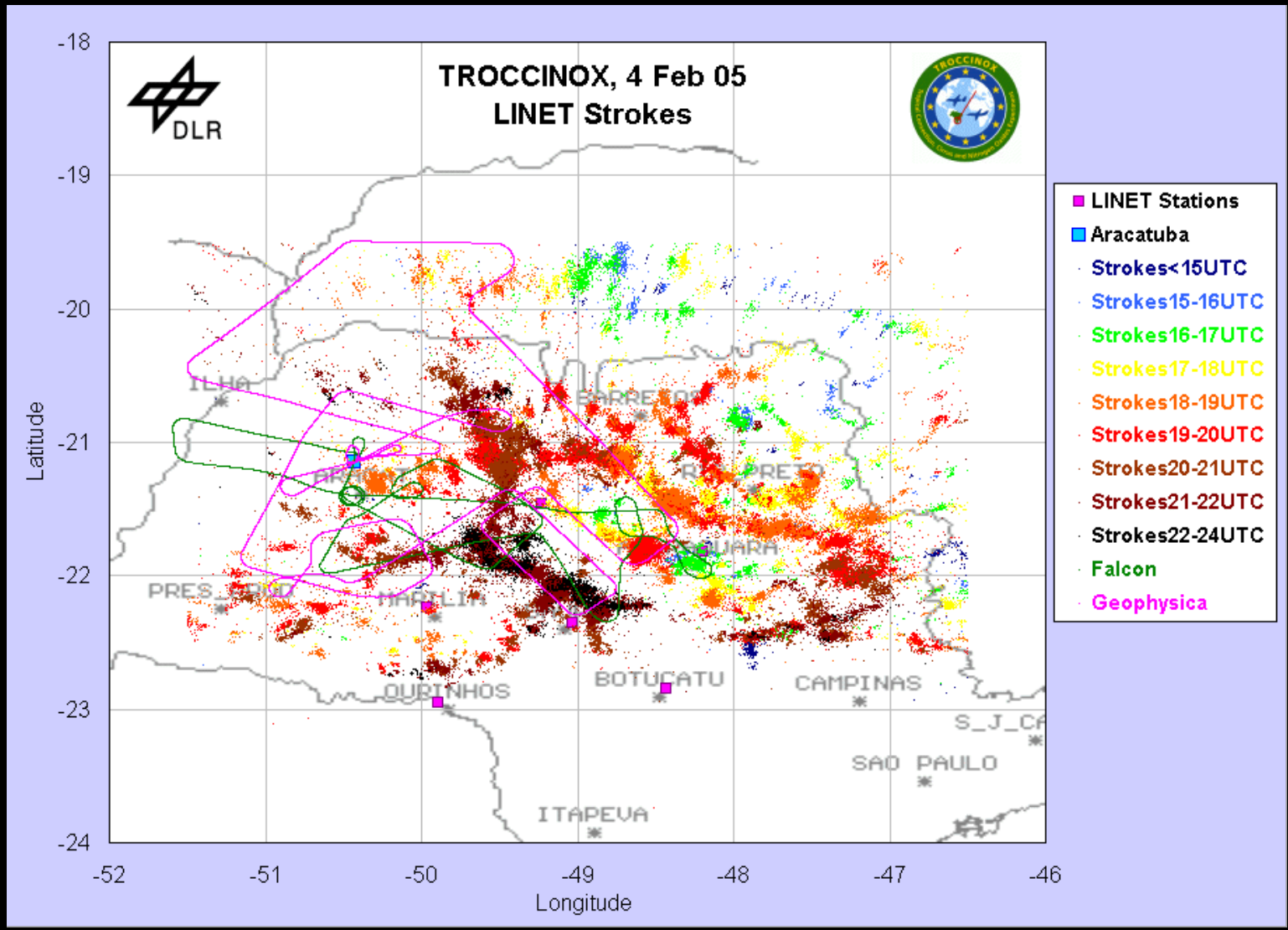
- TOA method of flash localization



- IC – CG discrimination
- Detection of IC stroke height



LINET 4 Feb 05, total strokes



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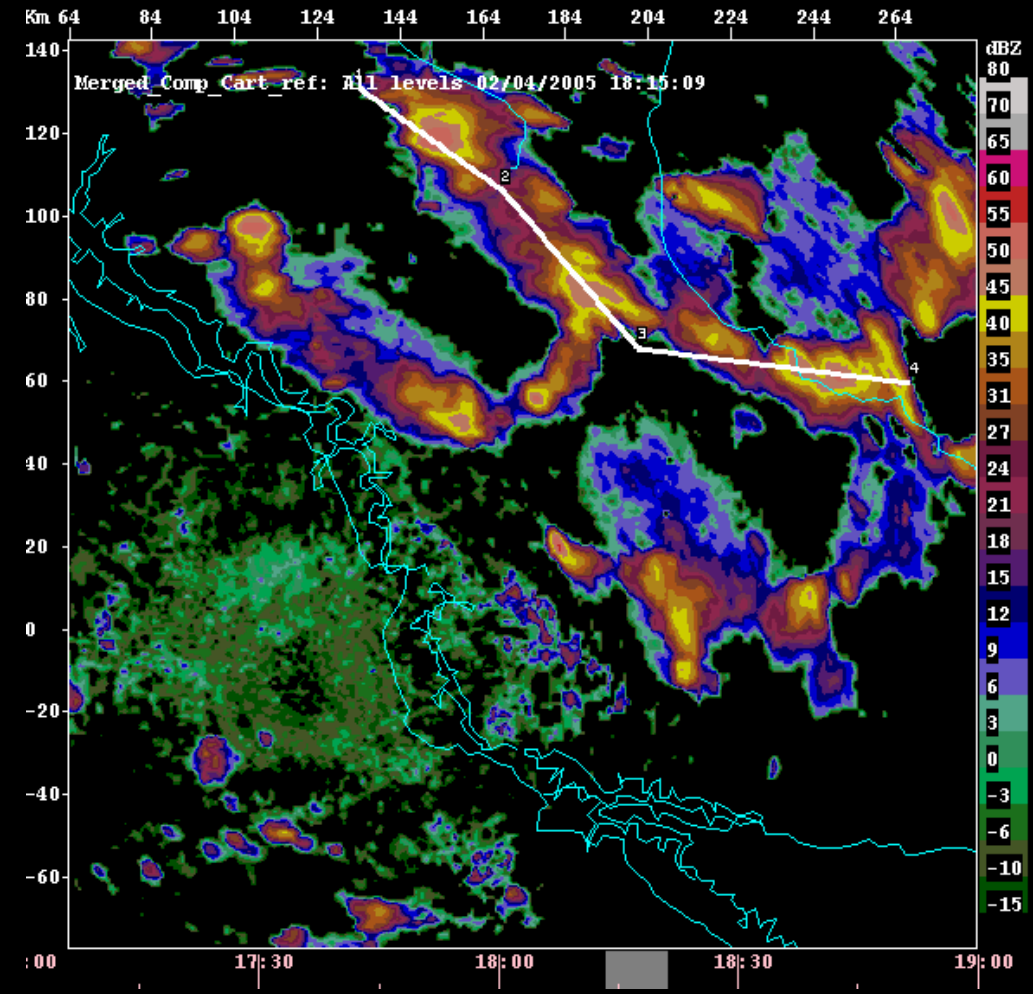
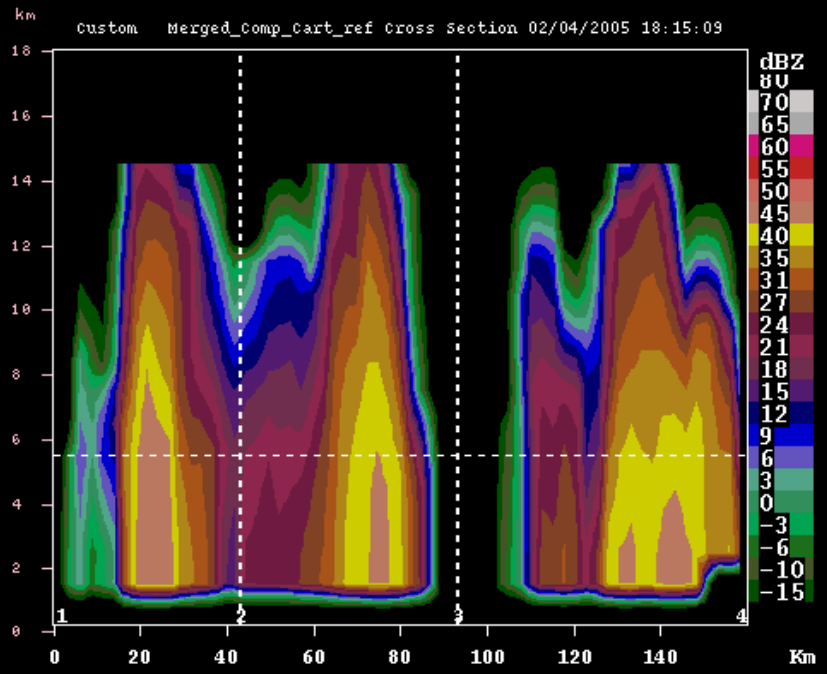
IPMet Radar at Bauru



4 Feb 05, 18:15 UTC



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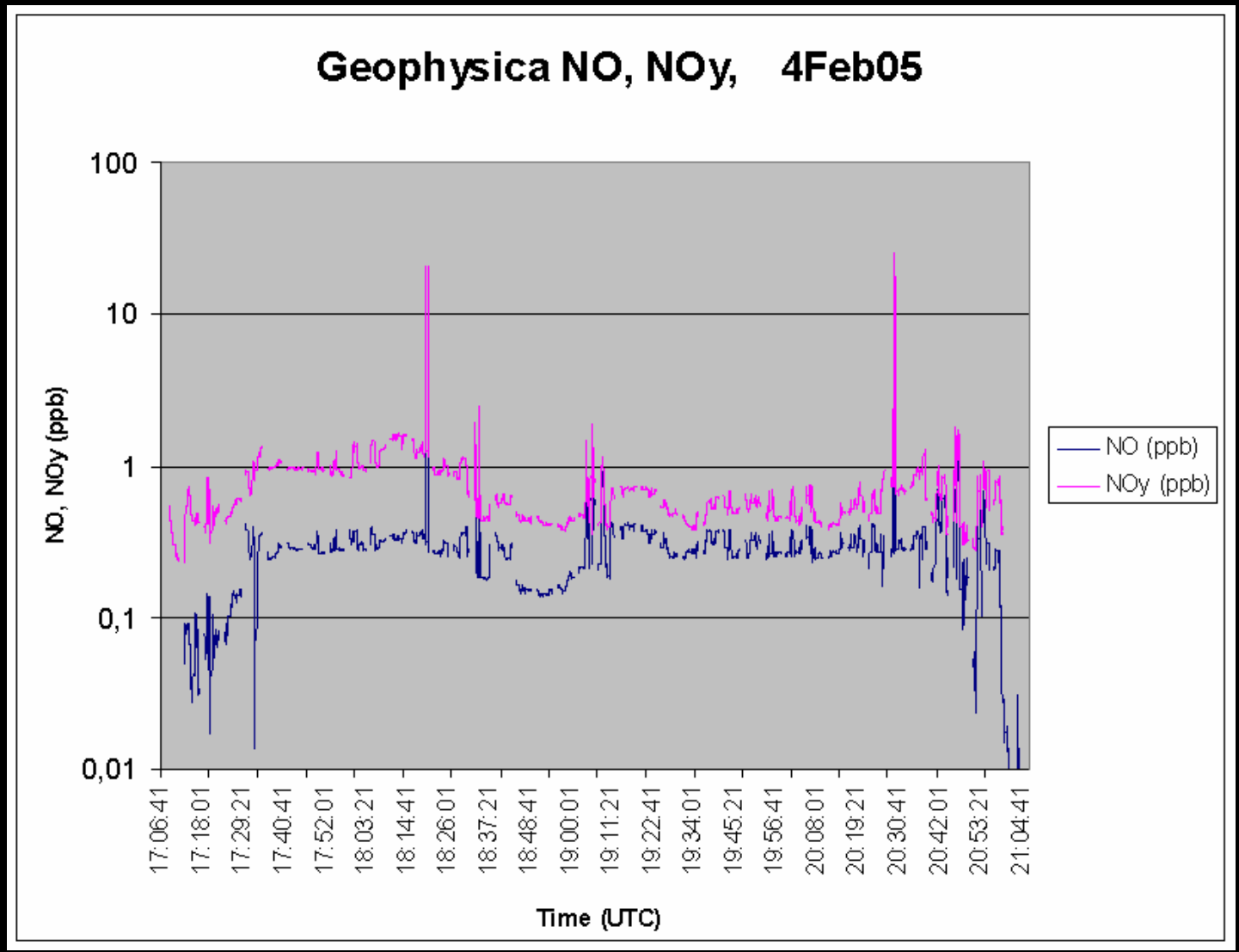
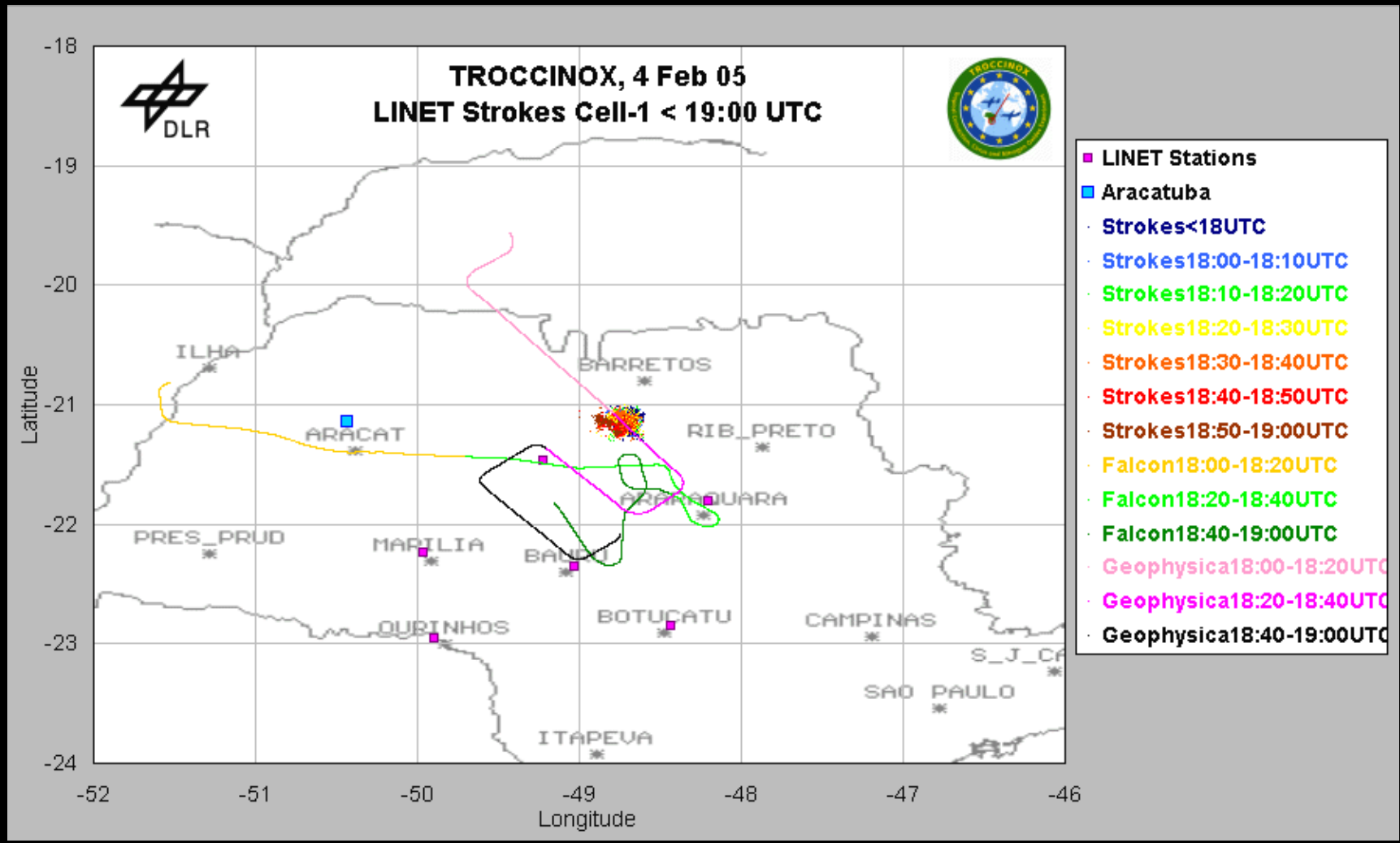
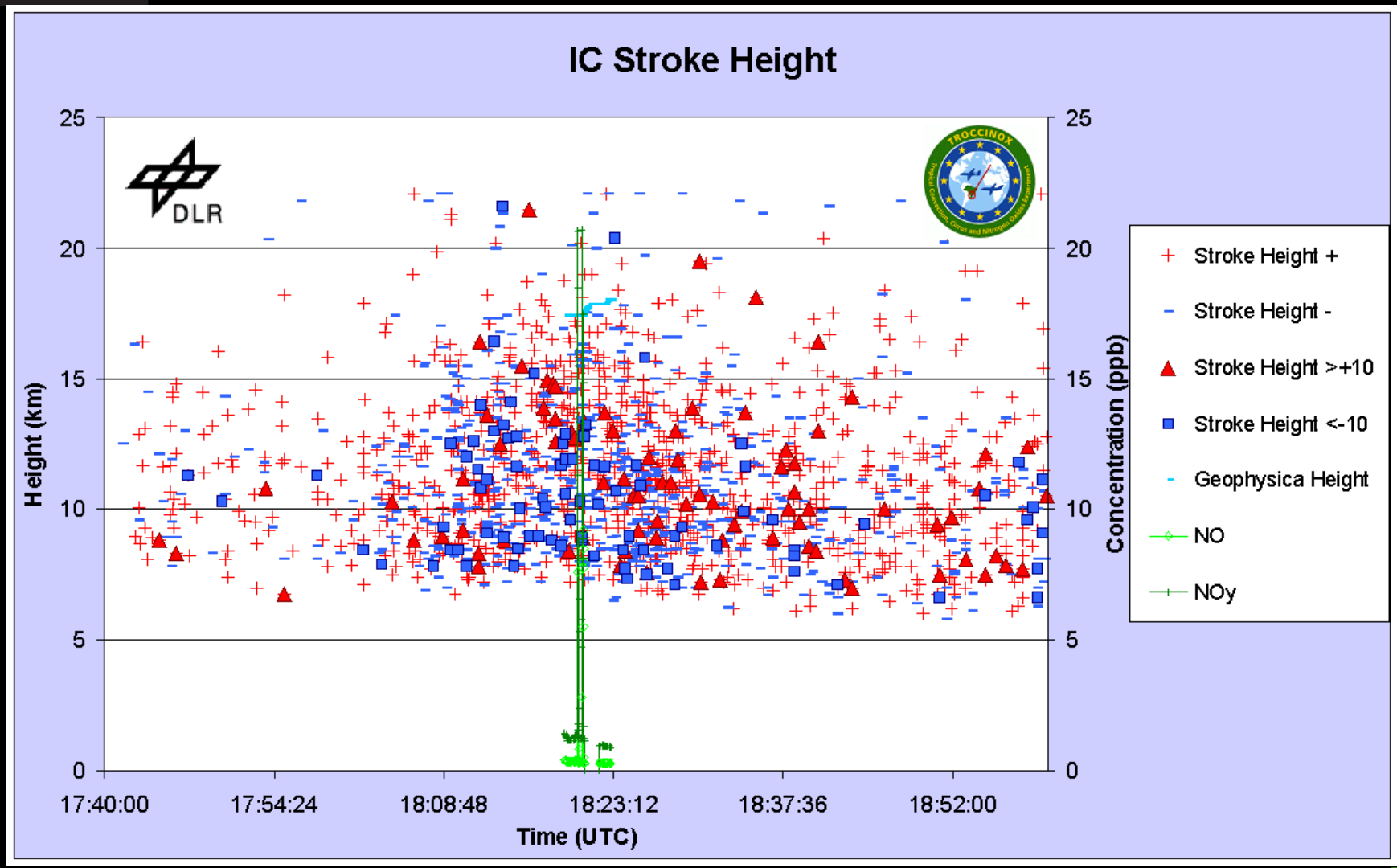
SIOUX


Geophysica NO, NOy, 4Feb05
100
10
1
0,1
0,01
NO, NOy (ppb)
17:06:41
17:18:01
17:29:21
17:40:41
17:52:01
18:03:21
18:14:41
18:26:01
18:37:21
18:48:41
19:00:01
19:11:21
19:22:41
19:34:01
19:45:21
19:56:41
20:08:01
20:19:21
20:30:41
20:42:01
20:53:21
21:04:41
Time (UTC)
NO (ppb)
NOy (ppb)

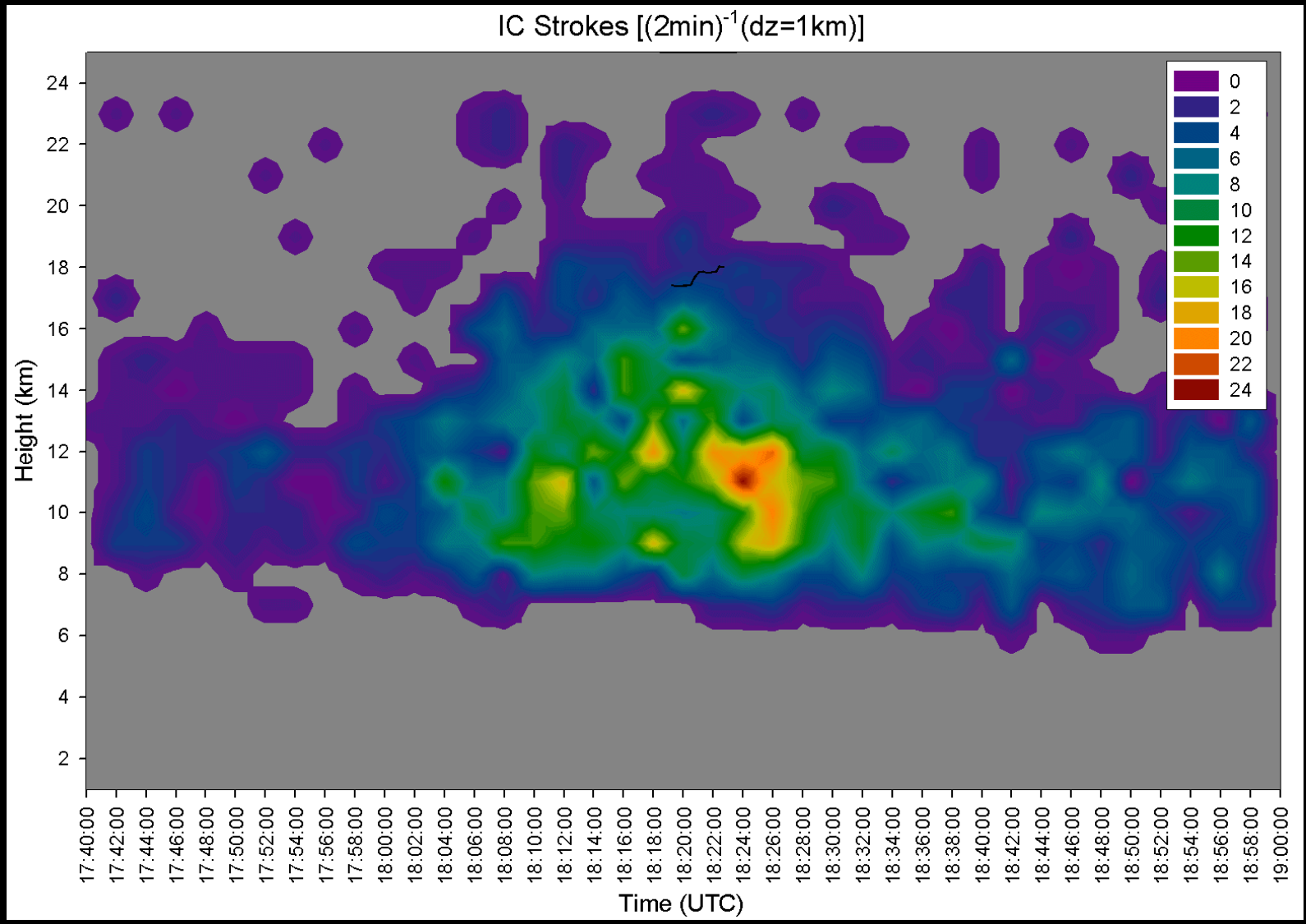
LINET Cell-1


TROCCINOX, 4 Feb 05
LINET Strokes Cell-1 < 19:00 UTC
DLR
LINET Stations
Aracatuba
Strokes<18UTC
Strokes18:00-18:10UTC
Strokes18:10-18:20UTC
Strokes18:20-18:30UTC
Strokes18:30-18:40UTC
Strokes18:40-18:50UTC
Strokes18:50-19:00UTC
Falcon18:00-18:20UTC
Falcon18:20-18:40UTC
Falcon18:40-19:00UTC
Geophysica18:00-18:20UTC
Geophysica18:20-18:40UTC
Geophysica18:40-19:00UTC
ILHA
BARRETOS
ARACAT
RIB_PRETO
ARARAQUARA
PRES_PRUD
MARILIA
BAURU
OURINHOS
BOTUCATU
CAMPINAS
S_J_CA
SAO PAULO
ITAPEVA
Latitude
Longitude
-18
-19
-20
-21
-22
-23
-24
-52
-51
-50
-49
-48
-47
-46

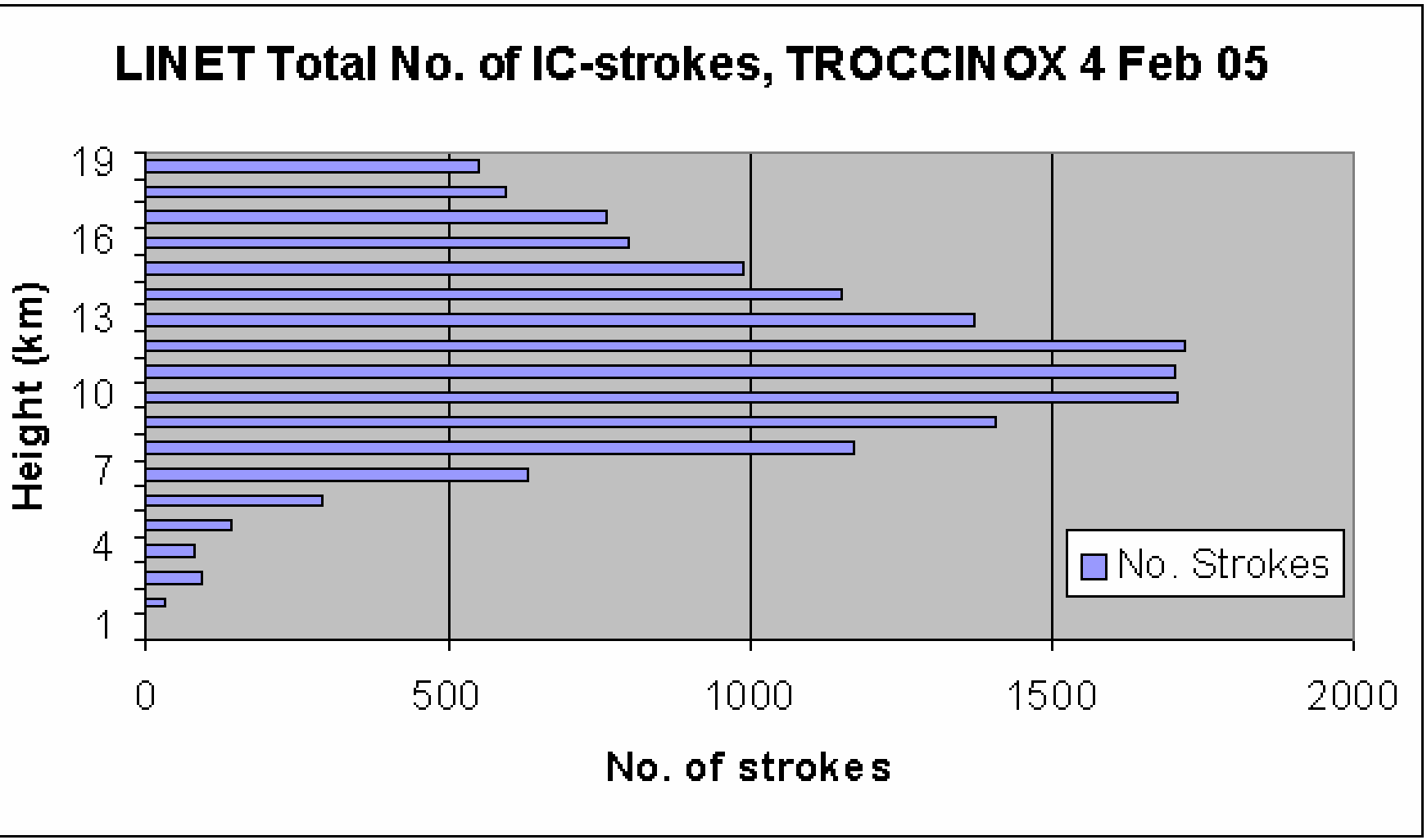
LINET Stroke Height, Cell-1



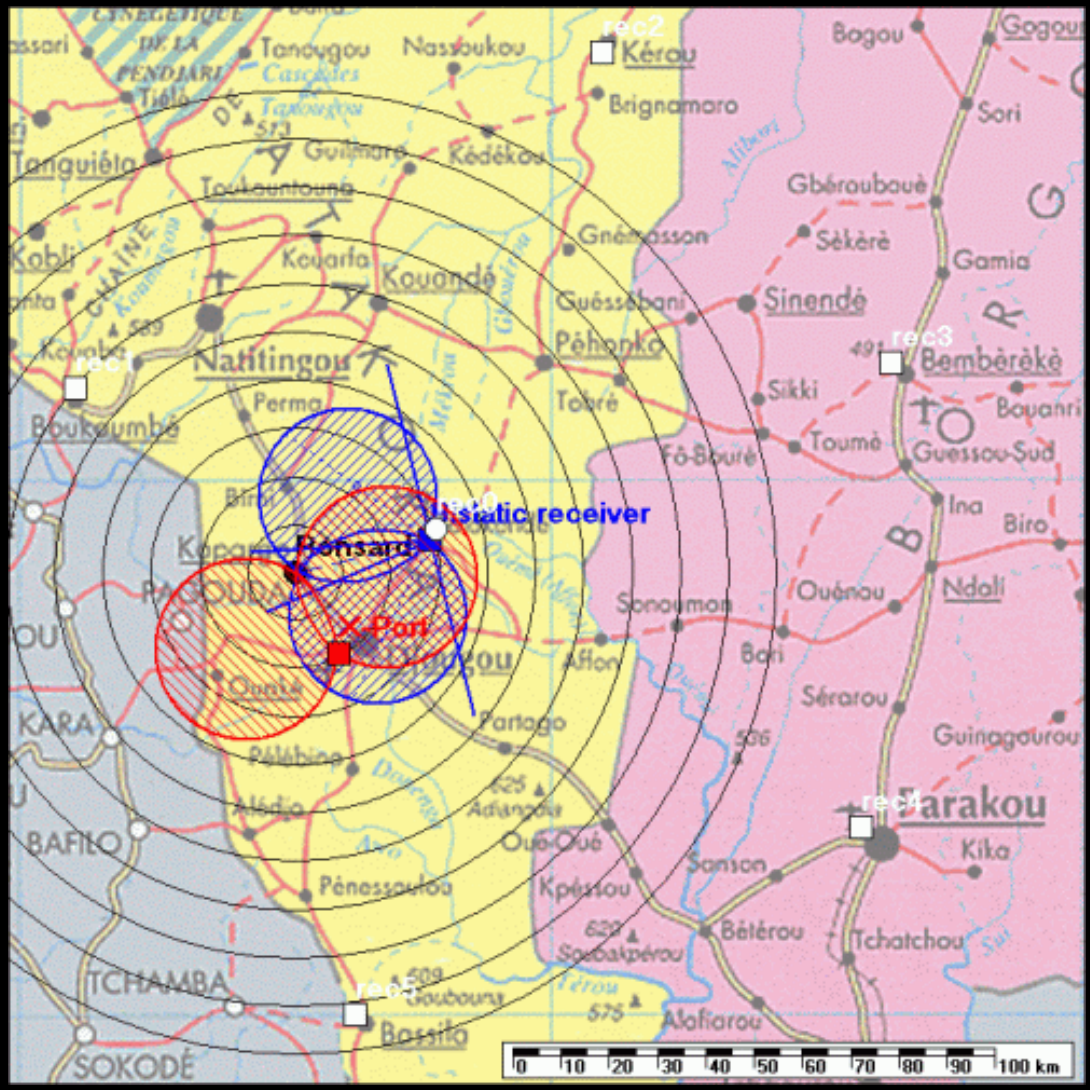
LINET Stroke Density, Cell-1



LINET vertical IC distribution



LINET in AMMA



Implications for TT8

- Flights into thunderstorms
- Coordination with Oueme measurements (radar, lightning, ...)
- Communications for real-time data