# D2D network operations

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# Outline

# The Net-TIDE network

# D2D frequency selection from oblique ionograms

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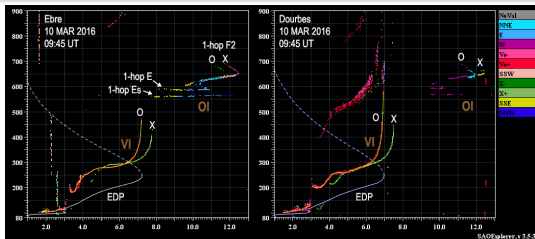


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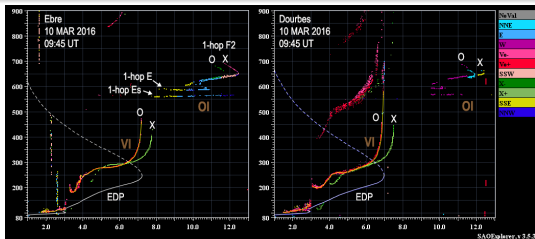


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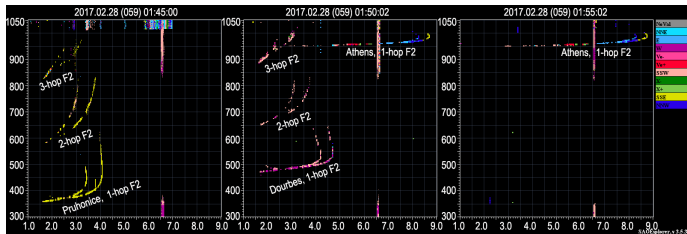
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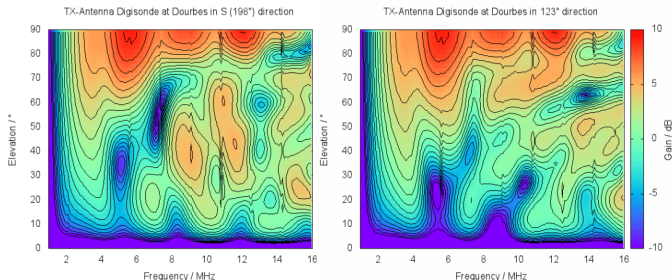
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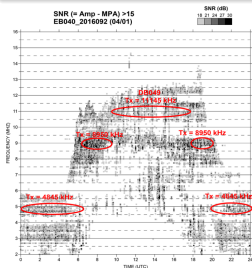
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The FAS algorithm needs 160 minutes of soundings at a fixed frequency. Therefore, using a twilight frequency for one or two hours is not opportune.
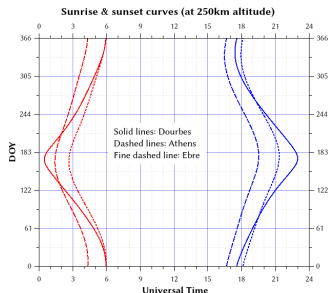
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Sunrise & sunset curves (at 250km altitude)

Solid lines: Dourbes
Dashed lines: Athens
Fine dashed line: Ebre

# Summary

The following operational issues have been identified and solved:

- Selection of a good D2D skymap sounding frequency, done by analysing VI+OI ionograms, independently for each link.
- Adapting this frequency to diurnal variations, done by using day- and night-time frequencies (but not more).
- Adapting to seasonal variations, done by (manually) updating the ionosonde schedules accounting for times of sunrise & sunset.

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The following issues might be improved in the future:

- Automation of the selection of the D2D skymap frequencies.
- Automatic adaptation to storm conditions (currently cause signal loss).
- Allow for multiple fixed frequency sounding at a Digisonde, either by shortening the D2D skymap program or by allowing simultaneous sounding at different frequencies.

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### The end, thank you!