

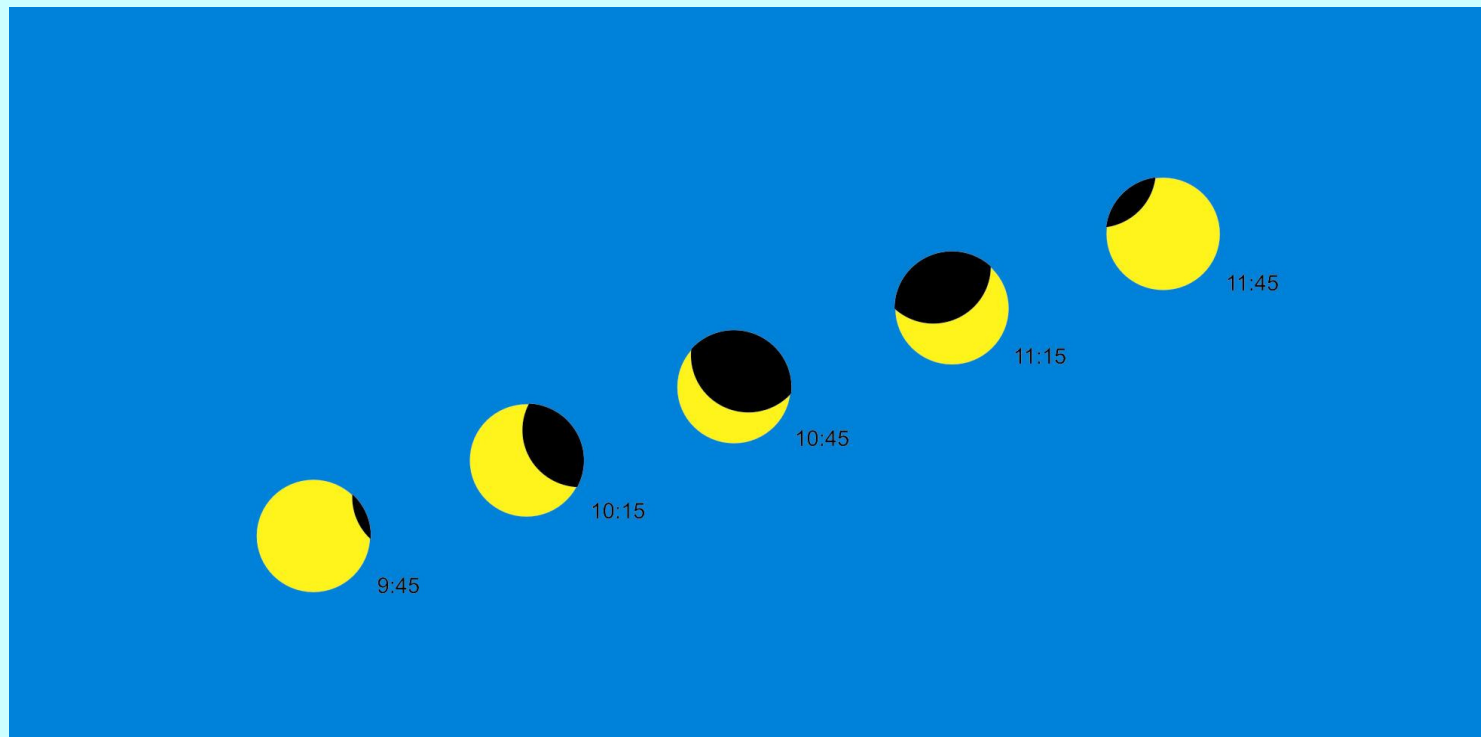
Effects of the Solar eclipse event
20. 3. 2015 in the ionosphere observed
at ionospheric observatory Pruhonice.

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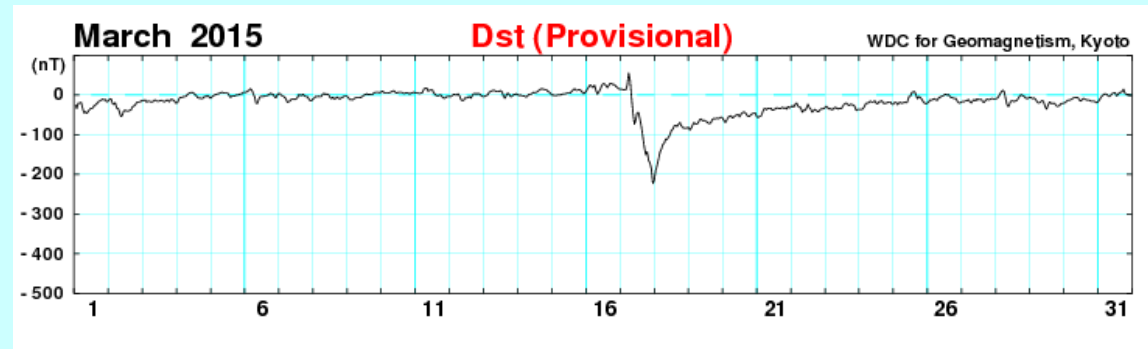
Solar eclipse 20.3.2015.

- Start: 8:36 UT
- Maximum: 9:45 UT 74 %
- End: 10:57 UT

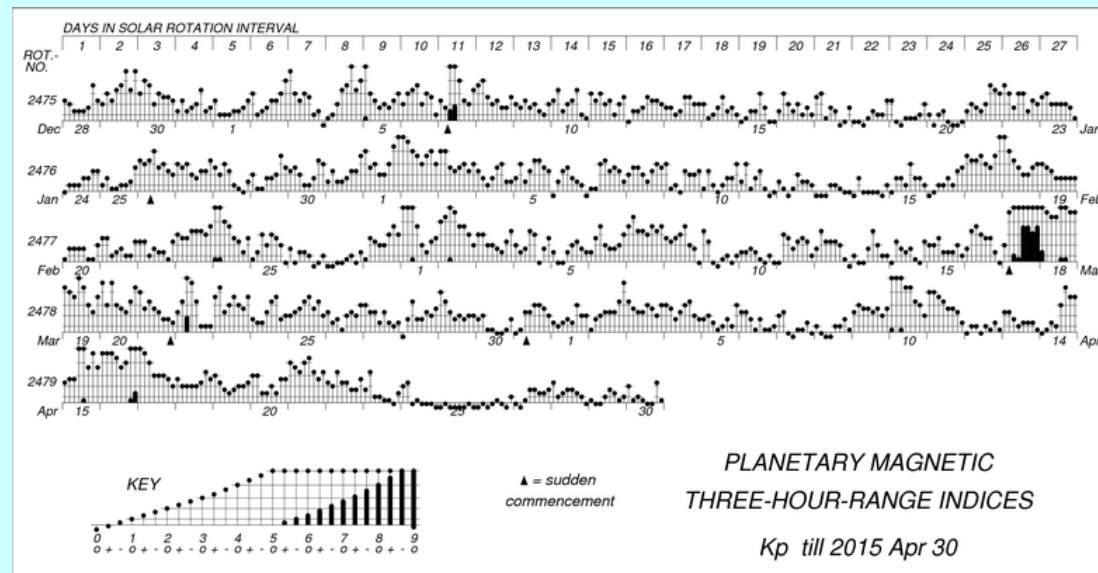


The ionosphere during the eclipse was also strongly affected by geomagnetic storm (with Dst index -223) which started 17.3.2015.

- Dst -231



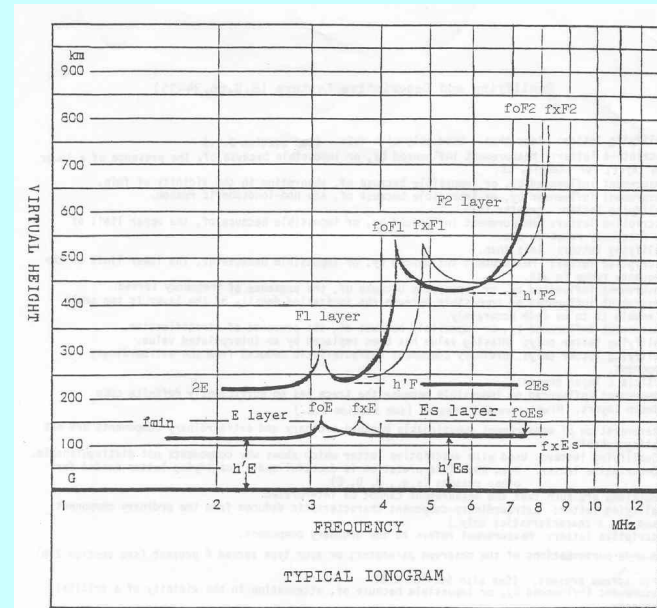
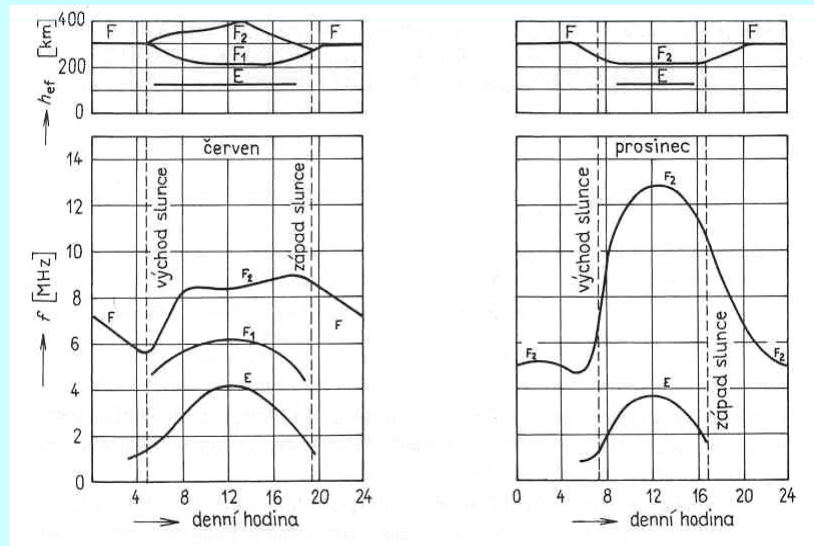
- Kp = 7+



Ionospheric vertical sounding: DPS4 D

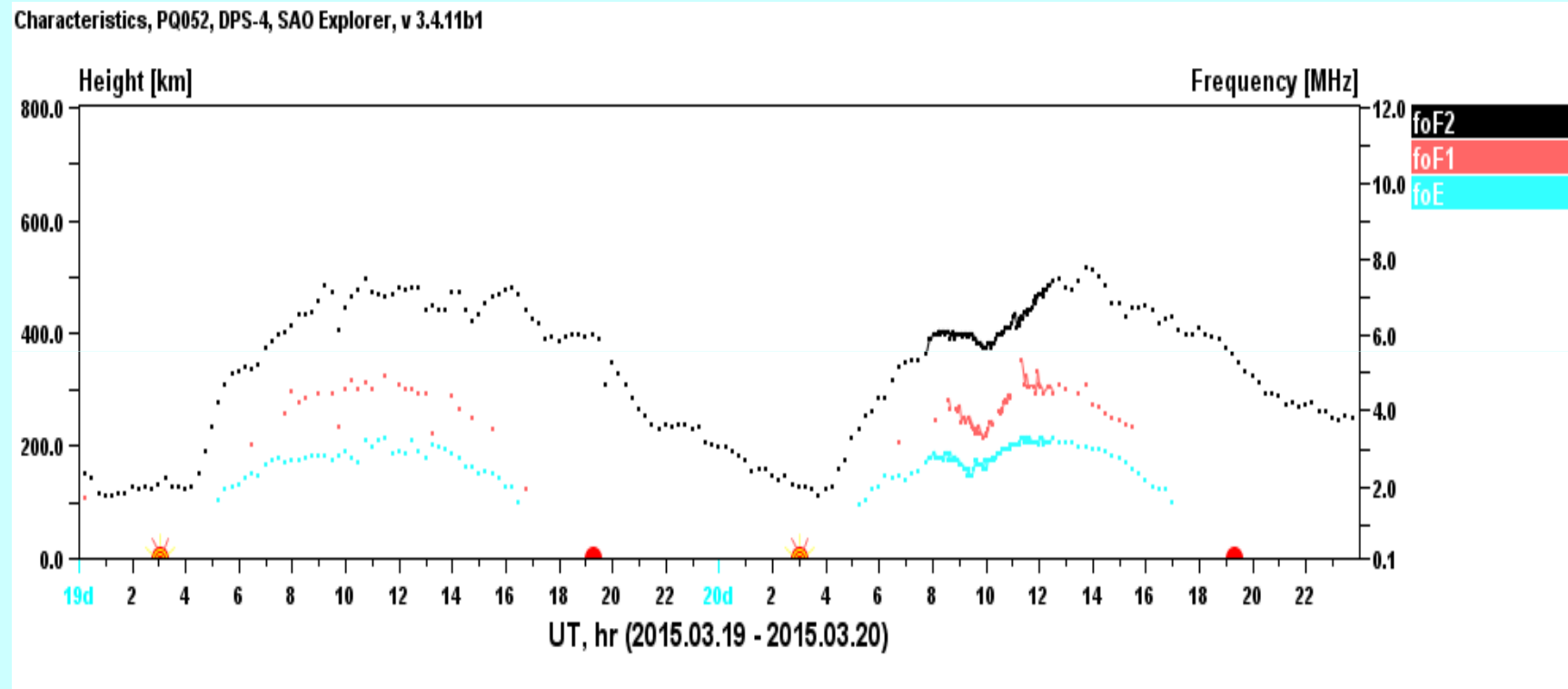
Summer

Winter



Ionospheric vertical sounding measurements and electron density profiles with delay time 3 minutes allow observation short time changes of the ionosphere during eclipse event.

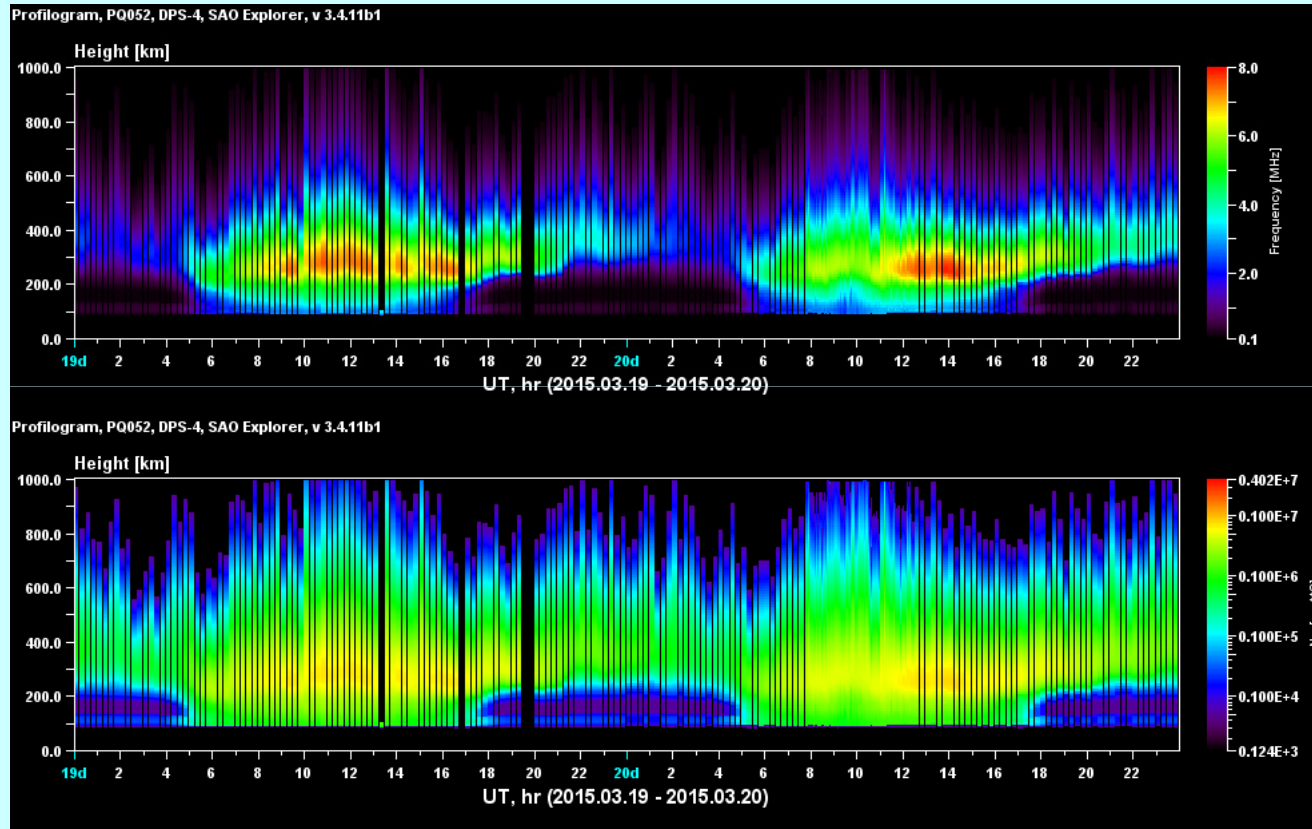
The course of the main ionospheric characteristics during 19 – 20.3.2015.



Ionospheric behaviour during the eclipse is affected:

- 1) By changes of Solar zenith angle
- 2) By decreasing of the solar ionizing radiation during eclipse
- 3) By geomagnetic storm conditions

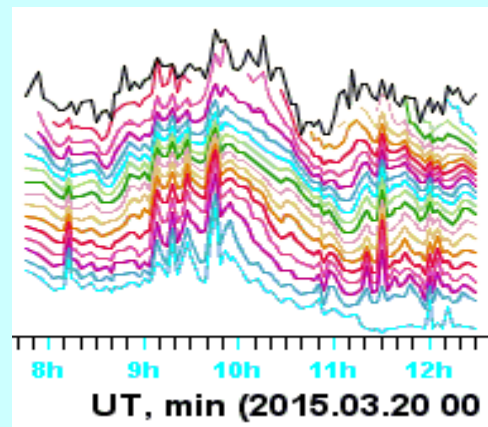
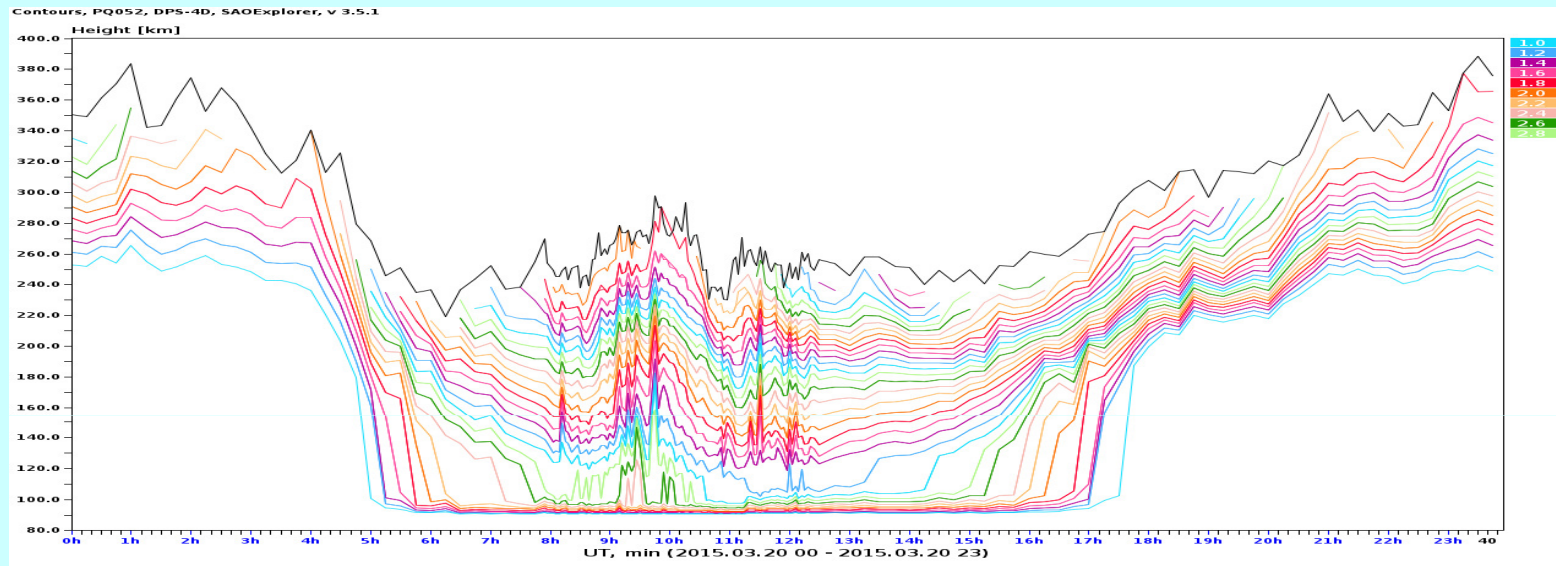
Full electron density profiles measured 19 – 20.3.2015.

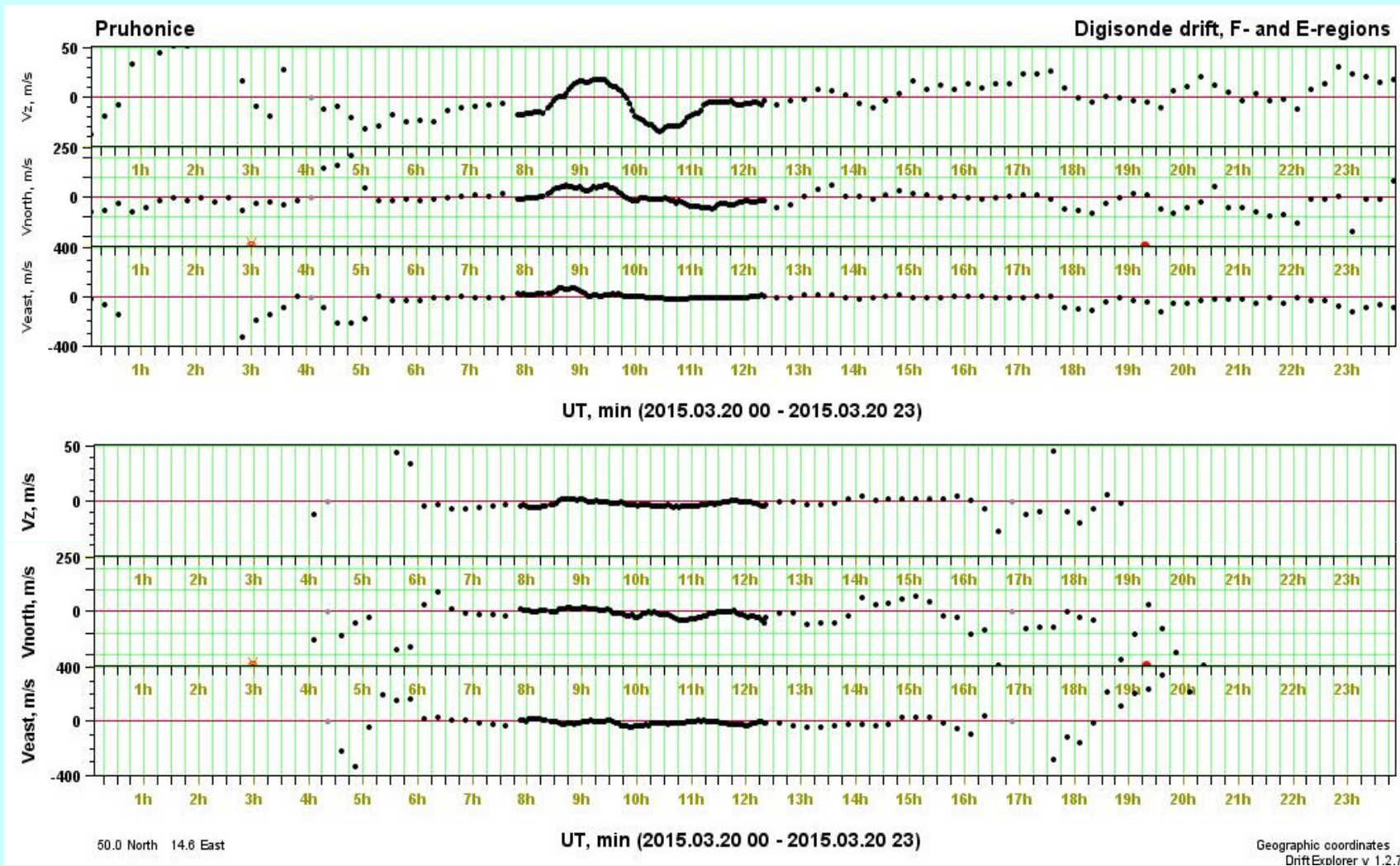


[MHz]

[Ne]

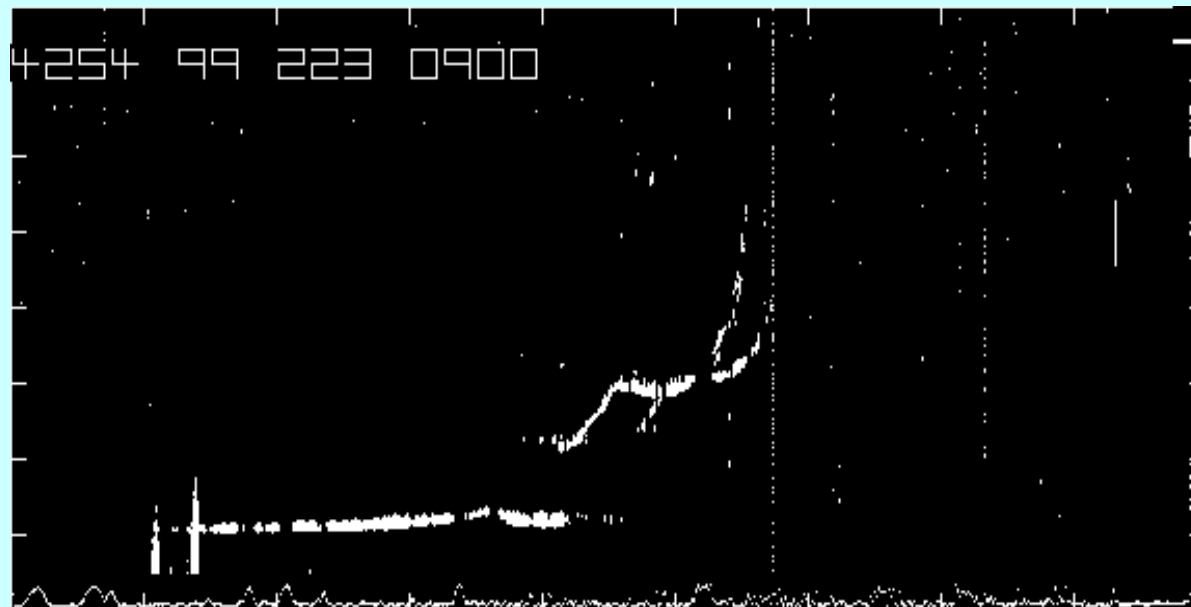
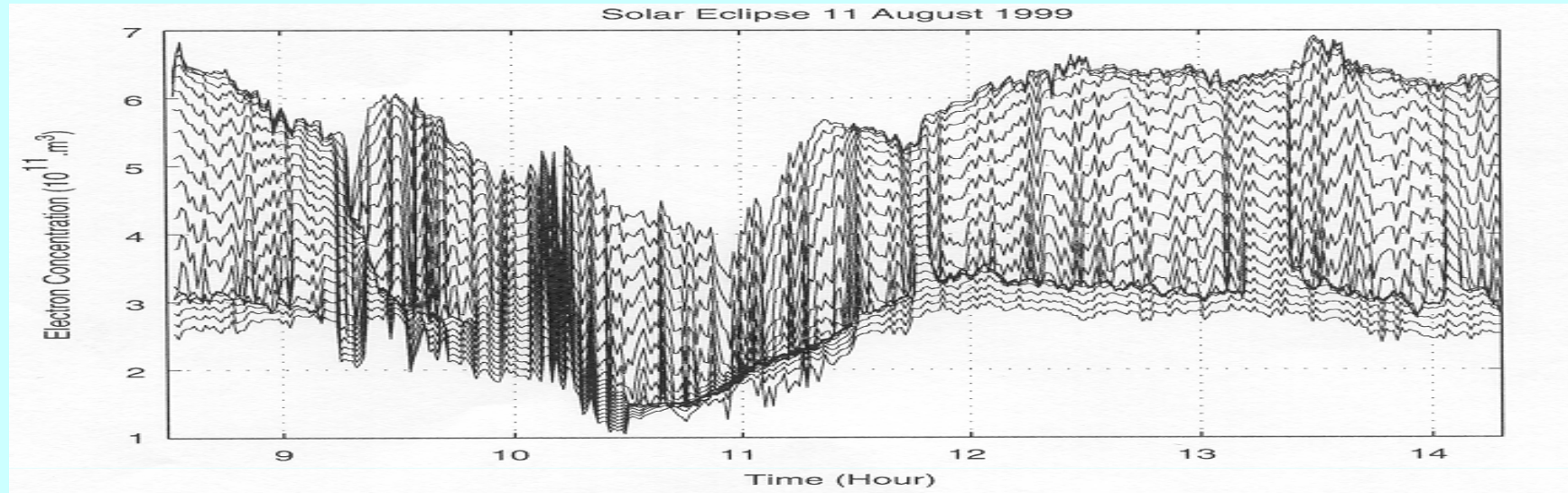
Changes of the isolines of the constant electron concentration during eclipse 20.3.2015.





Digisonde DPS4 D, installed at the Pruhonice observatory, is working as Doppler radar and allow ionospheric digisonde drift measurements in the E and F ionospheric region during the Solar eclipse with the same time resolution 3 min.

Solar eclipse 11.8.1999.



First contact 09 21 UT

Maximum 10 42 UT

Fourth contact 12 04 UT

98 %

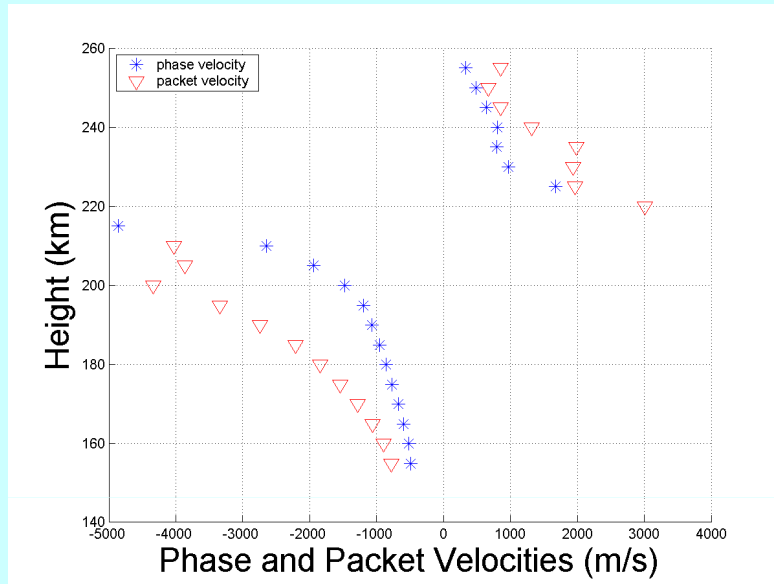
1 minute sampling period

Height range 155 - 255km

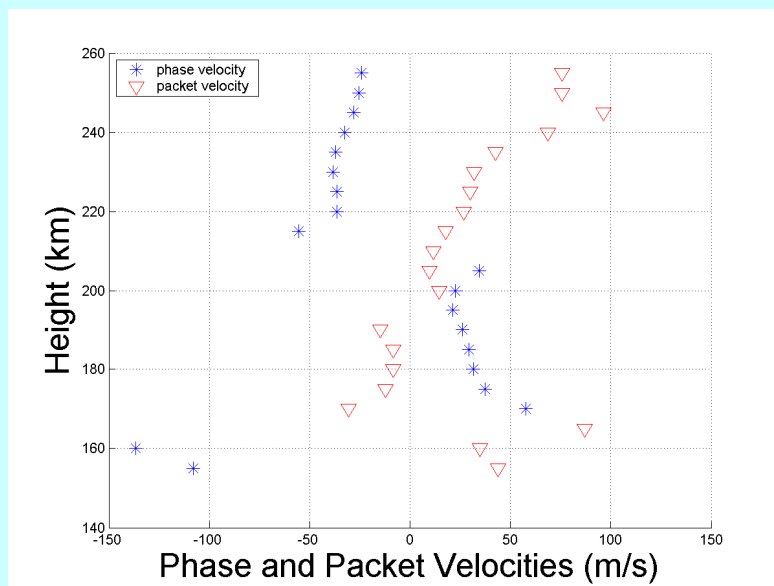
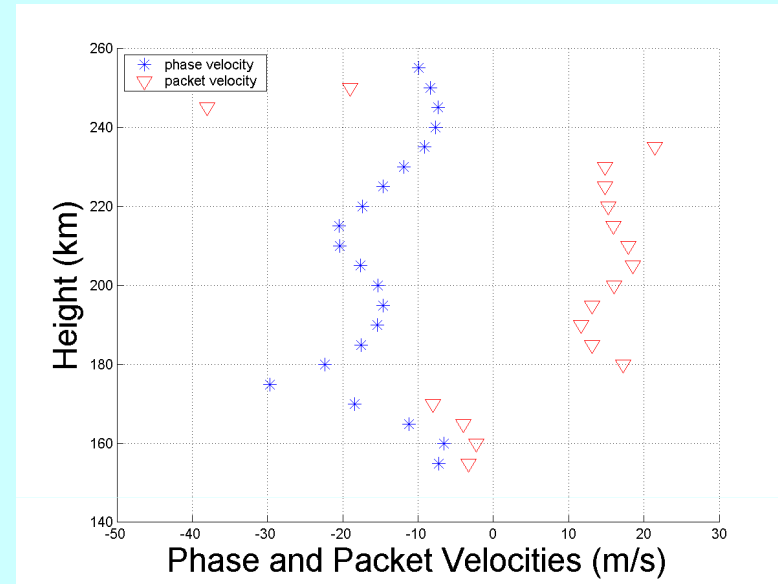
With step 5 km

Wave parameters during eclipse 11 August 1999

Initial phase waves



After eclipse wave



Propagating periods 15 –37min
[Boška, Šauli et al., JASTP 2006]

Thank you for your attention.