

# Millstone Hill experiment choices

67 meter zenith antenna and a 46 meter fully steerable antenna

17.5-02 local  
21.5-06 UT



Latitude:  $42.61^\circ$

Longitude:  $288.51^\circ$

# Experiment Type A: Regional Vector

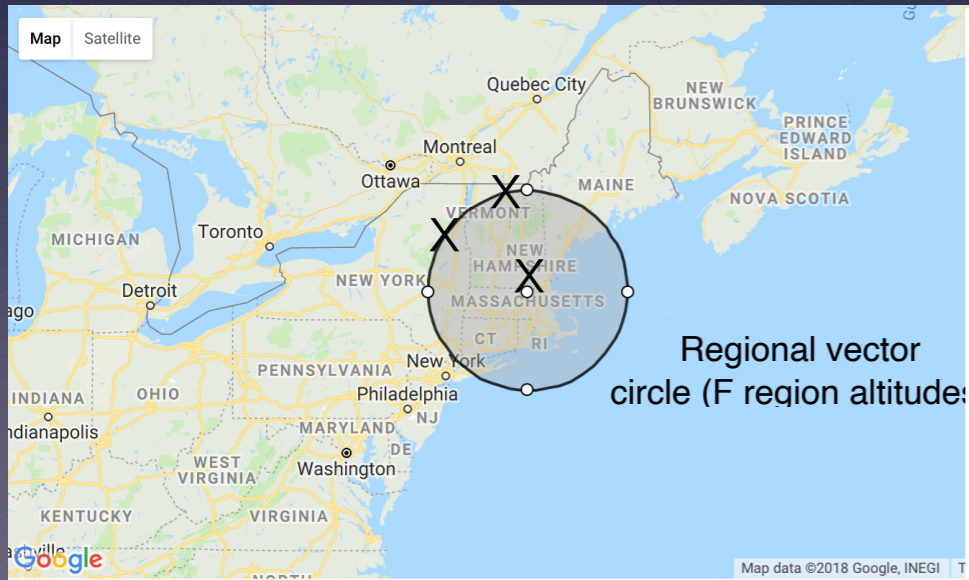
Vertical profiles [zenith],  
regional measurements [45 deg elevation]

Off-zenith positions are on either side of magnetic  
meridian (-12.5 az / -40.5 az)

E, F region ionosphere

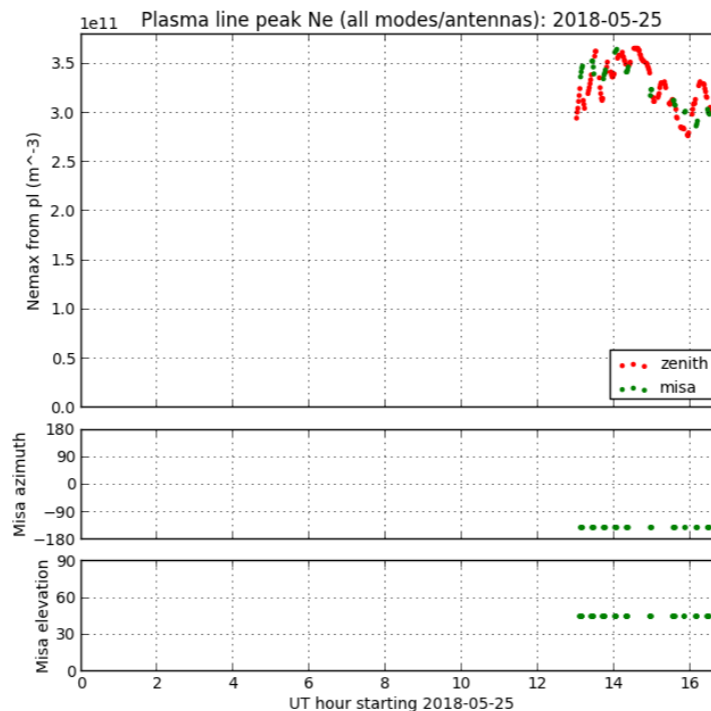
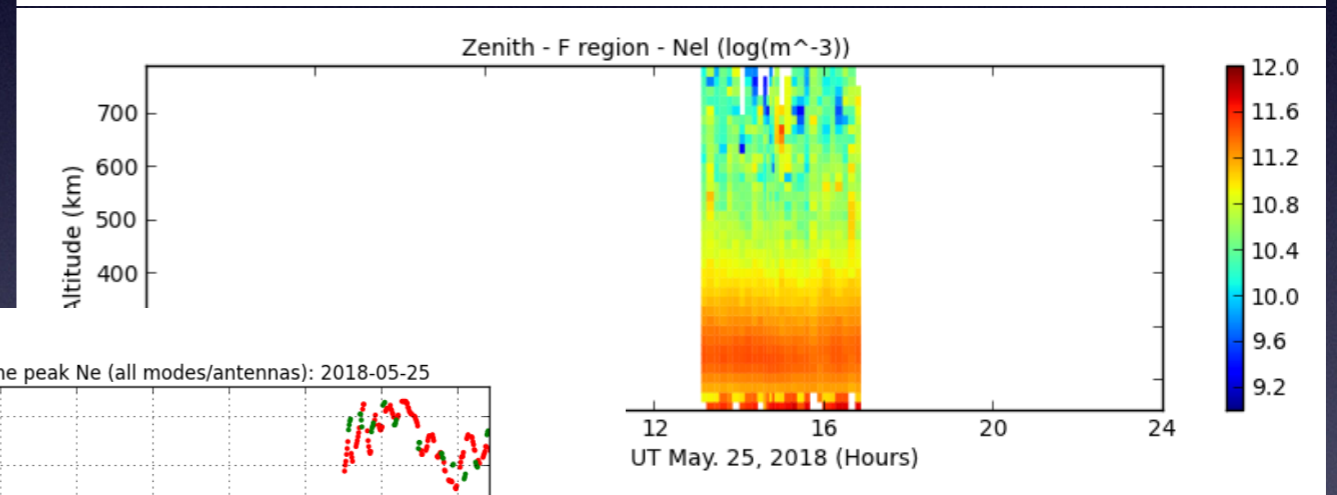
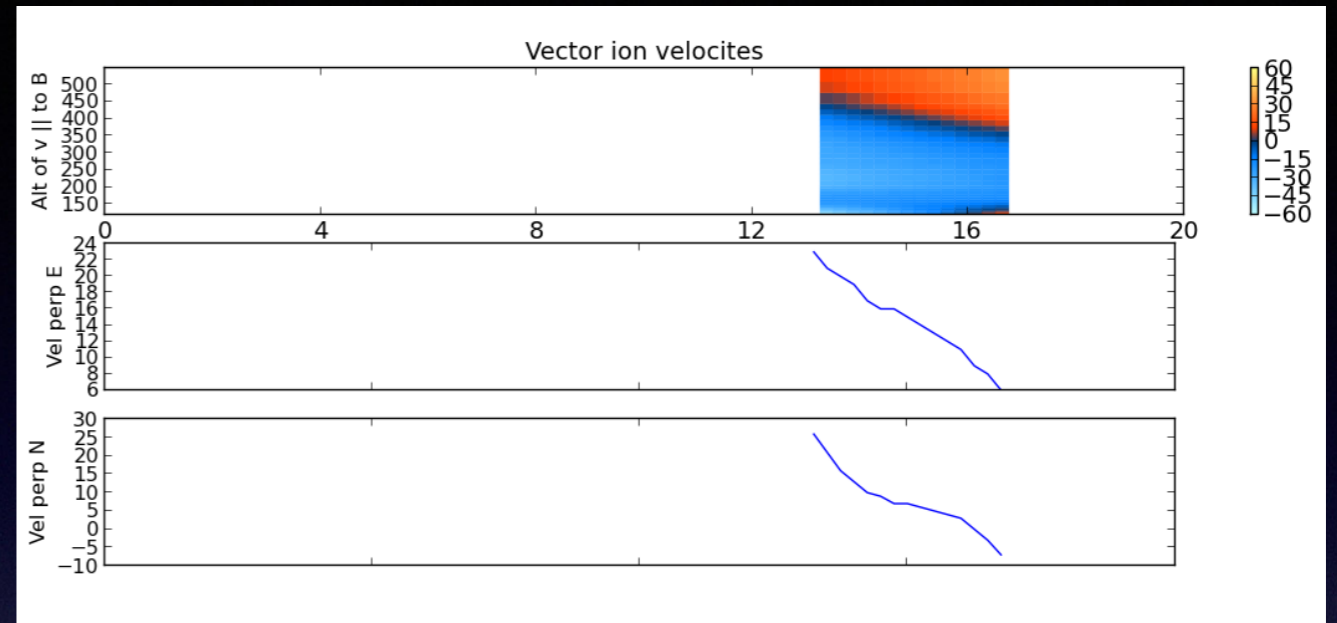
F2 peak high accuracy Langmuir mode  
electron density available (daytime ionosphere)

Experiment cycle time = ~17 minutes



Regional vector  
circle (F region altitudes)

Zenith: 4 minutes  
MISA fixed positions: 4 minutes  
(Currently MISA motion is limited)



# Experiment Type B: Vertical + Up B

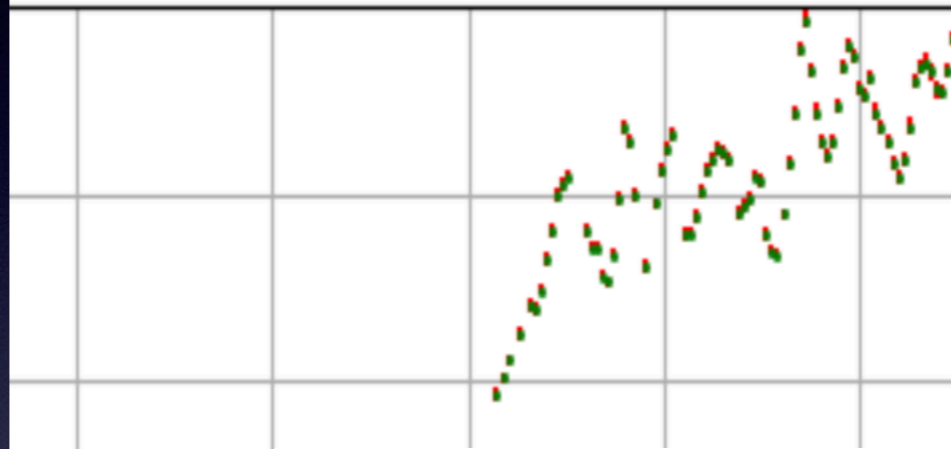
Vertical profiles [zenith; 1.5 minutes],  
fixed pointing up B [MISA; 1.5 minutes]

E, F region ionosphere

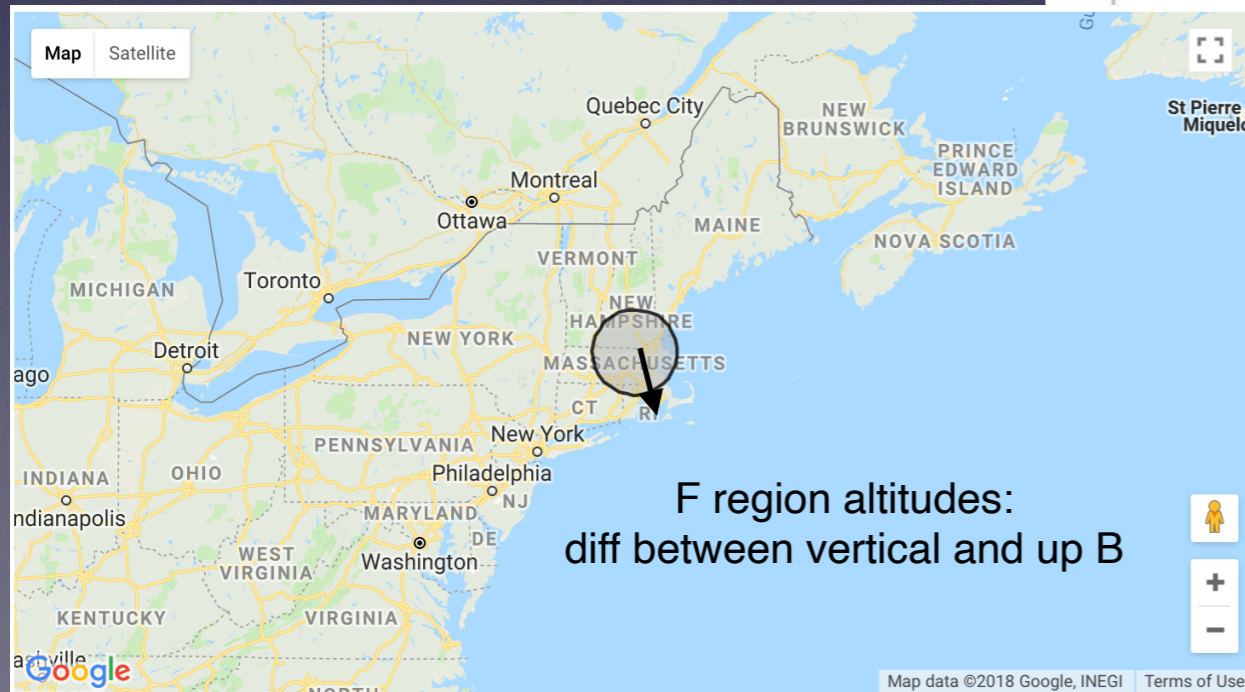
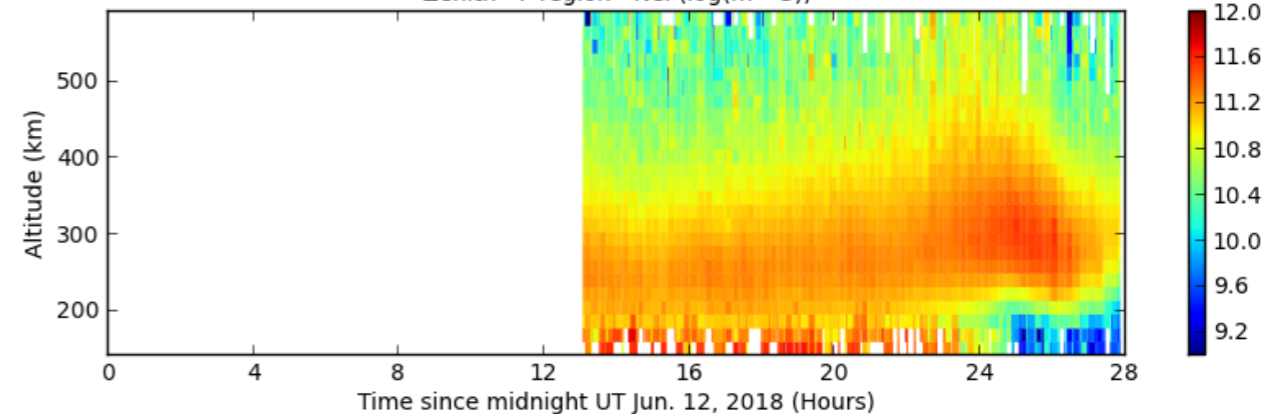
F2 peak high accuracy Langmuir mode  
electron density available (sometimes)

**Experiment cycle time = ~3 minutes**

Plasma line N<sub>max</sub> (m<sup>-3</sup>)



Zenith - F region - N<sub>el</sub> (log(m<sup>-3</sup>))



F region altitudes:  
diff between vertical and up B

Zenith: 1.5 minutes  
MISA up B: 1.5 minutes