

## Pc3 geomagnetic pulsations excited by earthquakes and their commonality with solar wind-originated Pc3

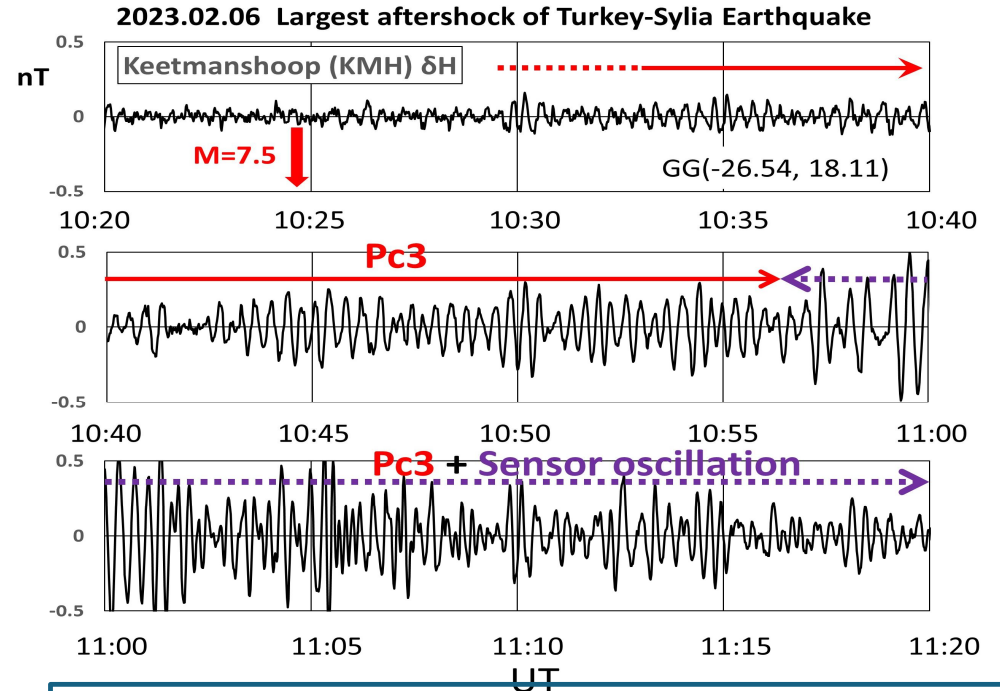
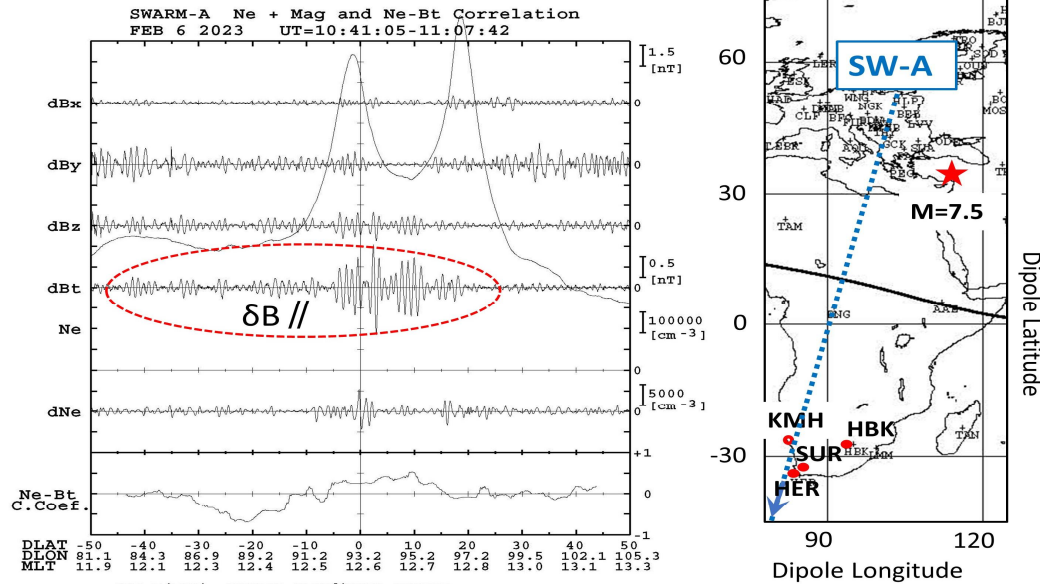
Strong inland earthquakes excite compressional Pc3 pulsations. Their characteristics are very similar with solar wind origin Pc3s.

- Power spectra have many peaks with nearly equal spacing.
- They appear on the dayside over wide range of longitudes.

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### Turkey-Syria Earthquake on Feb. 6, 2023

The maximum aftershock (M=7.5) at 10:24 UT

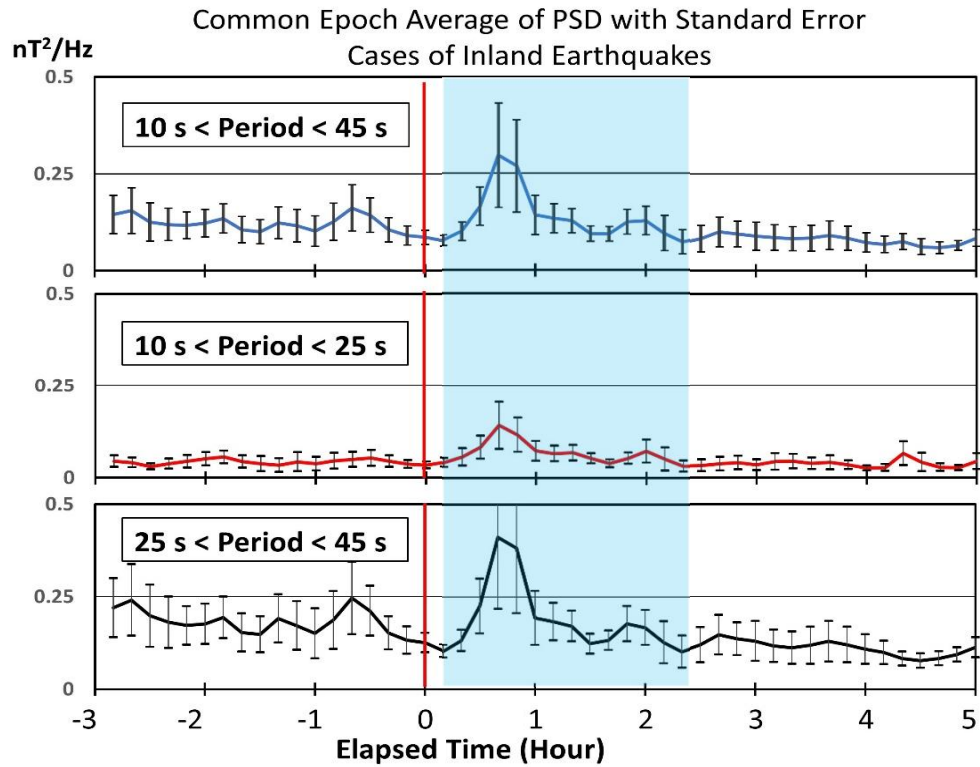


Swarm-A observed a compressional Pc3

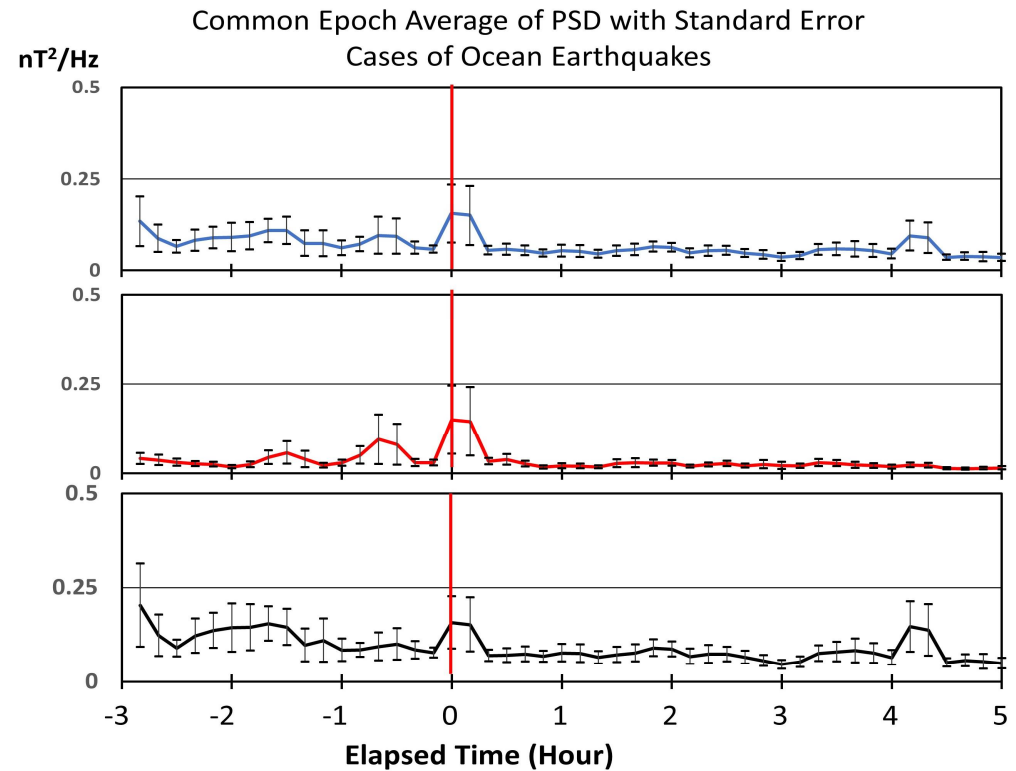
A Pc3 was excited just after the origin time

# A common epoch analysis

Magnitude > 6.5  
Inland and Ocean bottom earthquakes -- 10 cases each

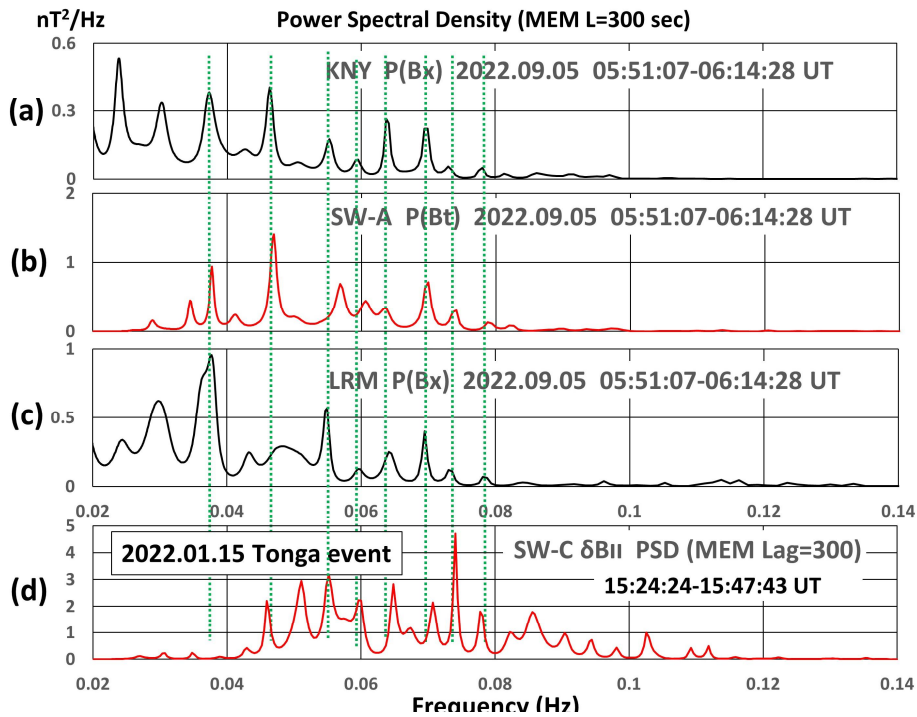


Inland earthquakes



Ocean bottom earthquakes

Pc3 activity increases 20 min after origin time for inland earthquakes



Frequency of spectral peaks: A comparison with a magnetospheric waveguide model by Samson et al. (1995)

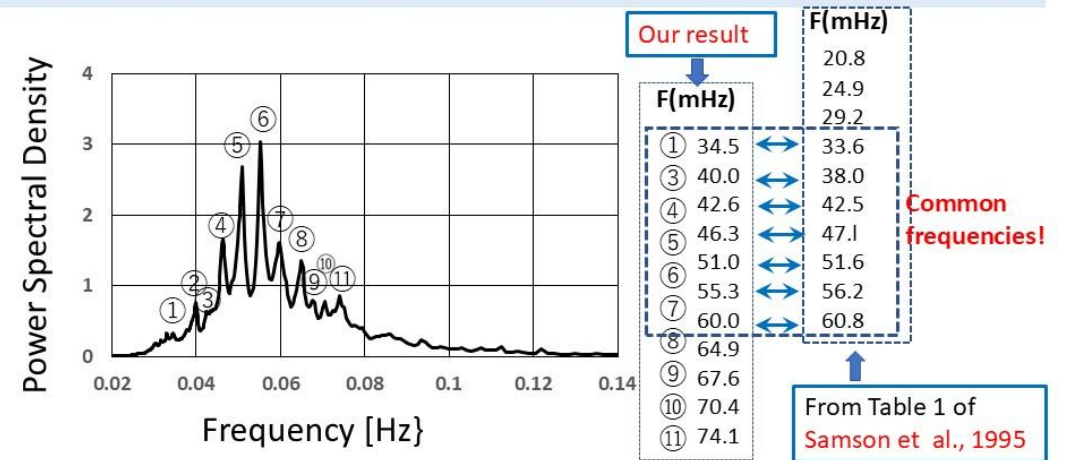
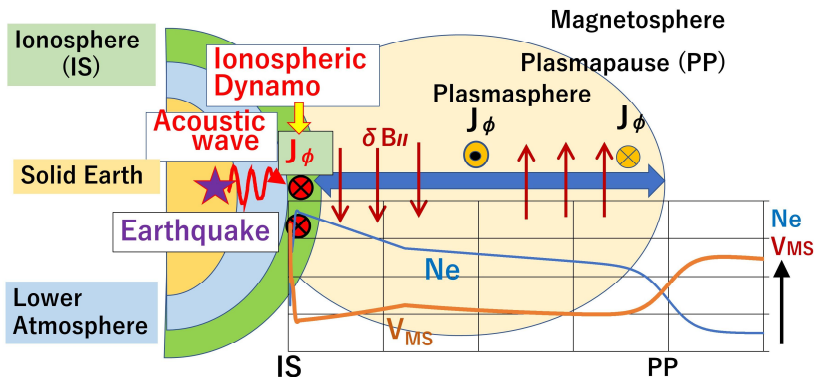
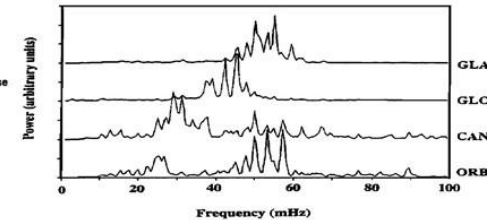
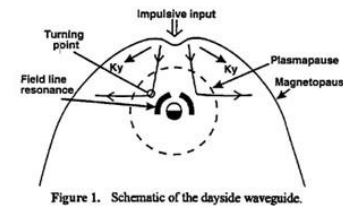


Fig.1 (left) and Fig. 3(right) of Samson et al., 1995.



Resonance in the plasmasphere ?

Magnetospheric waveguide resonance ?

**Conclusion**  
 Our results suggest a necessity of re-consideration on the resonance process which excite a compressional Pc3 pulsation.