山岳地帯での微動測定チーム

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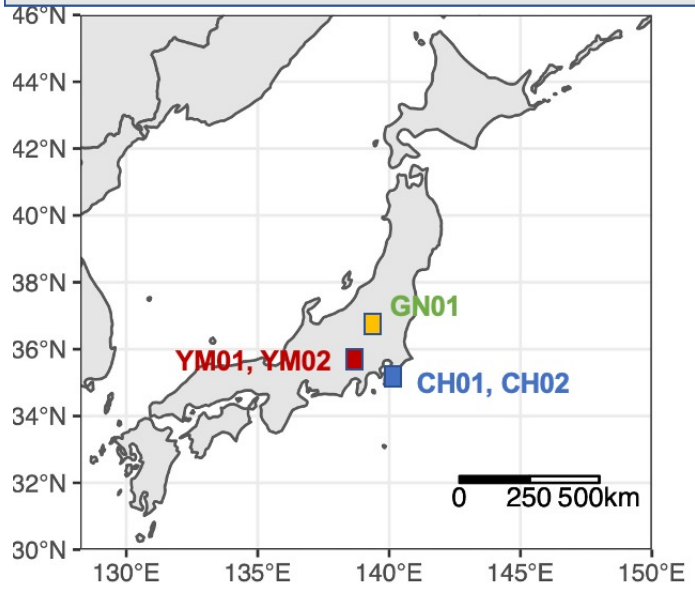
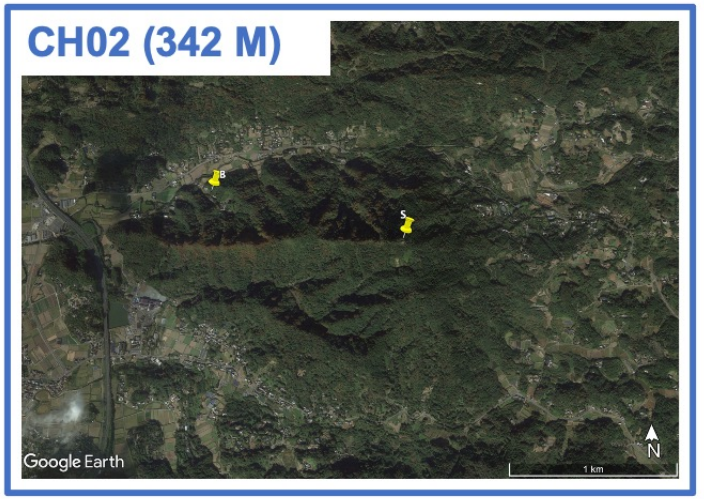
目的

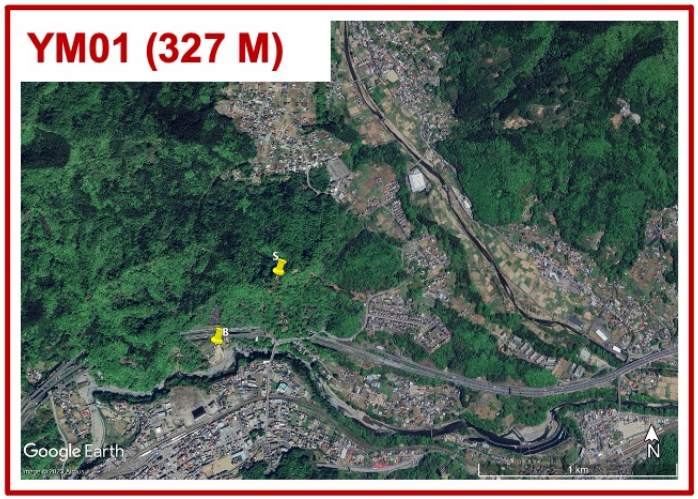
微動データを使って
1. 山地形の固有振動数
2. 山地形による増幅
を調べることができますか？

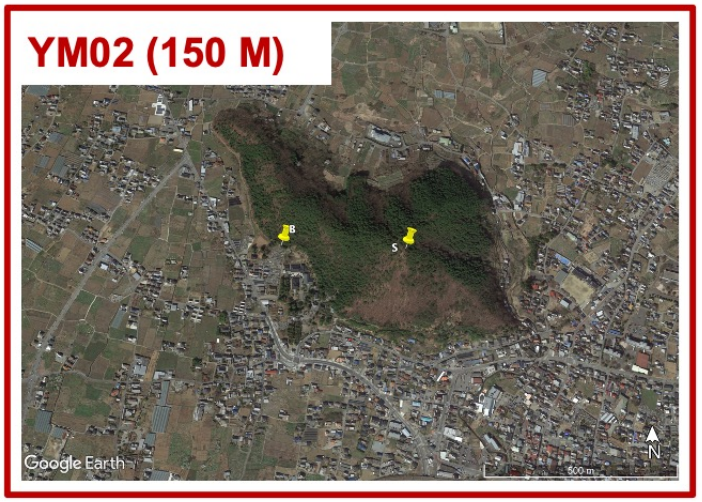
CASE STUDY AREAS: 5 MOUNTAINS IN JAPAN

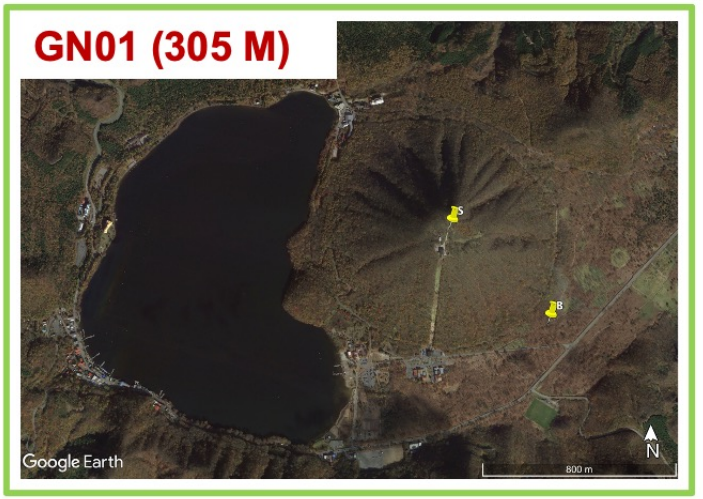


Note: Prominence in M

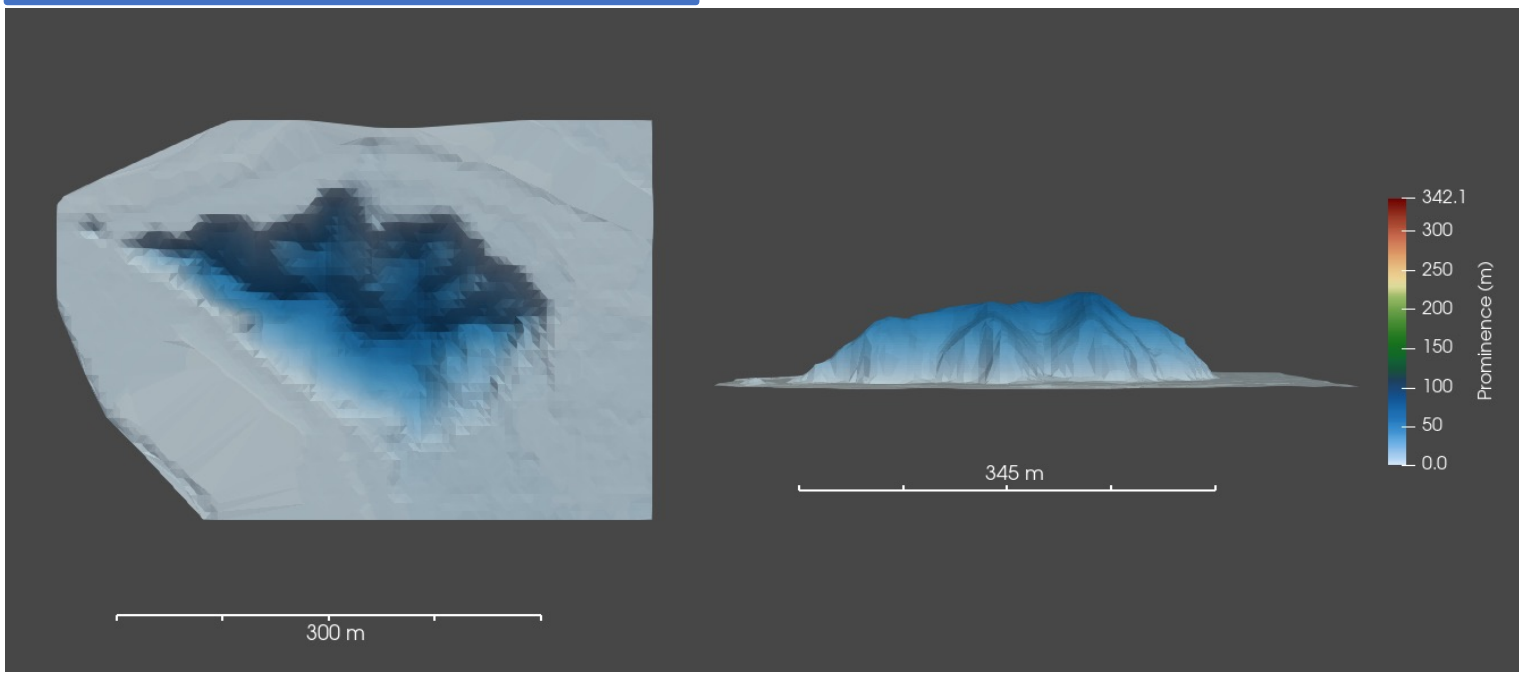




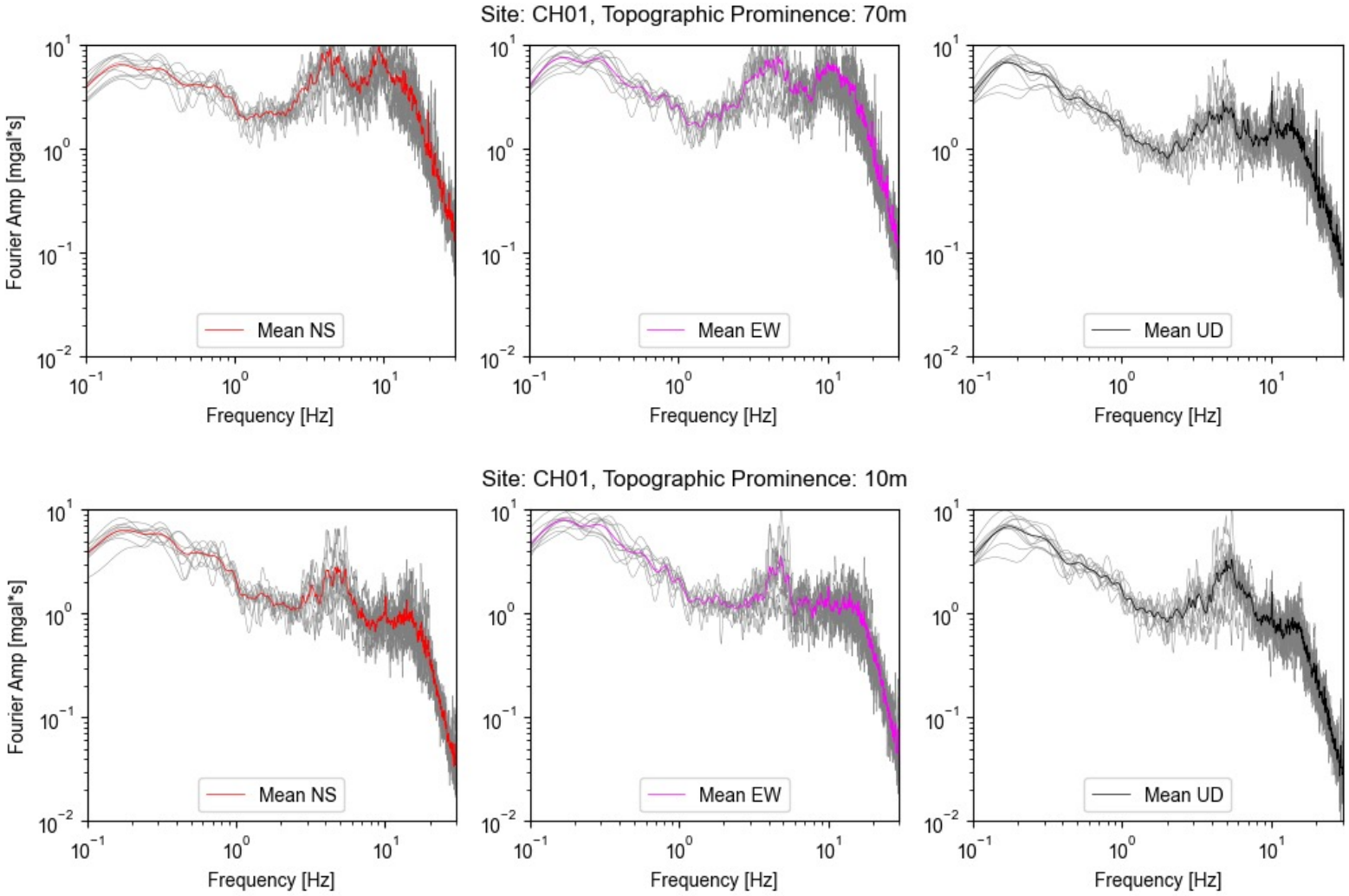




MOUNTAIN 1: CH01 (PLAN AND ELEVATION)

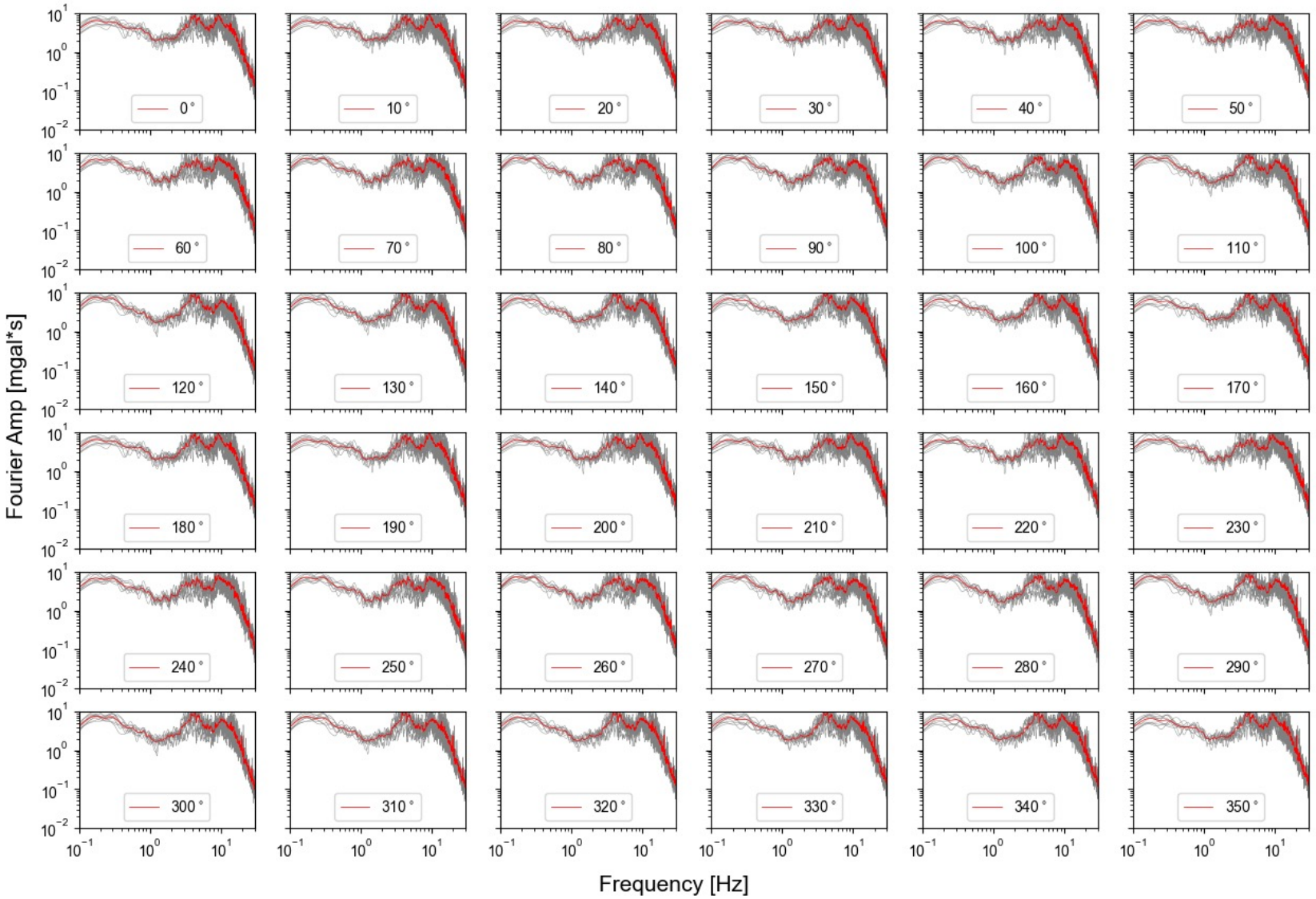


CH01 : FOURIER ACCELERATION SPECTRA AT 70 M and 10 M



Note: The mean Fourier spectra is estimated from 10 recordings of 1-minute long microtremor data

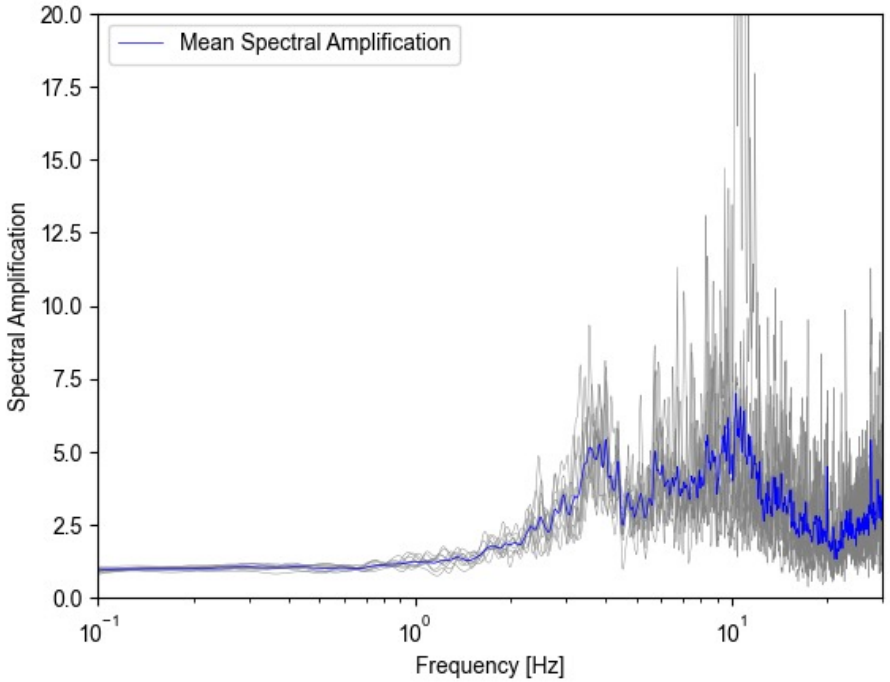
CH01: DIRECTIONAL(HORIZANTAL) FOURIER SPECTRA AT 70 M



Note: At the top of mountain, Fourier spectra at different angles is estimated to investigate the directional properties (NS= 0º and EW = 90º)

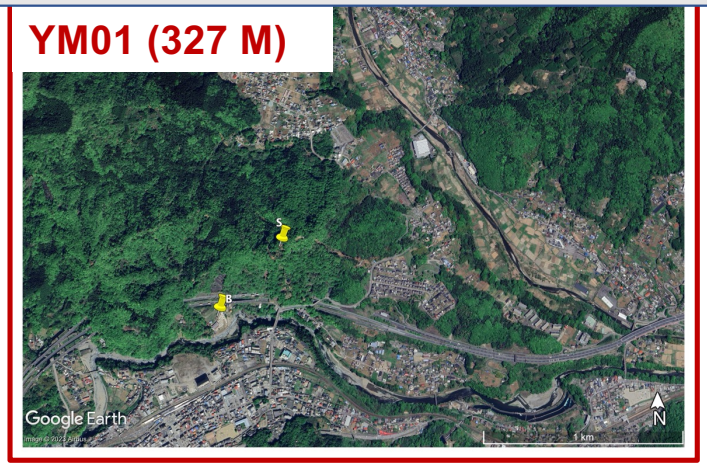
Note: Maximum amplitude of Fourier spectra is observed at 160º

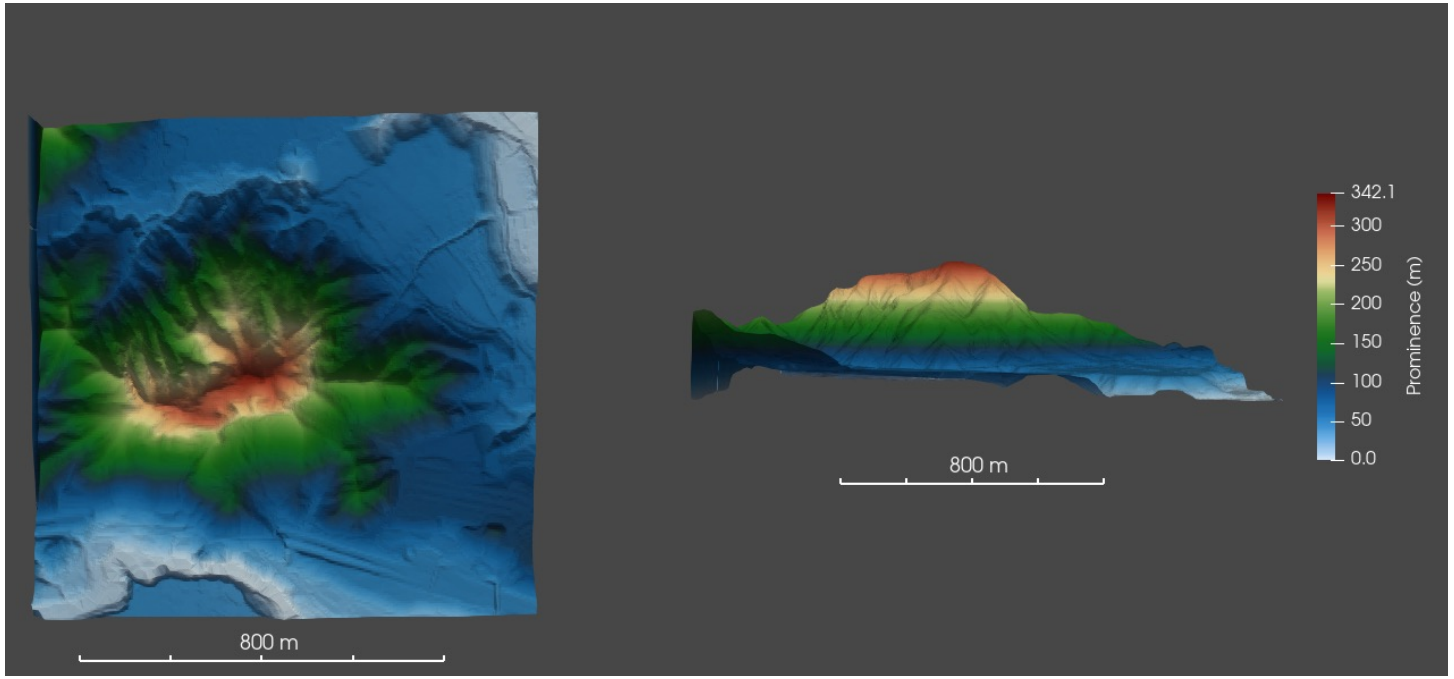
CH01: SPECTRAL AMPLIFICATION



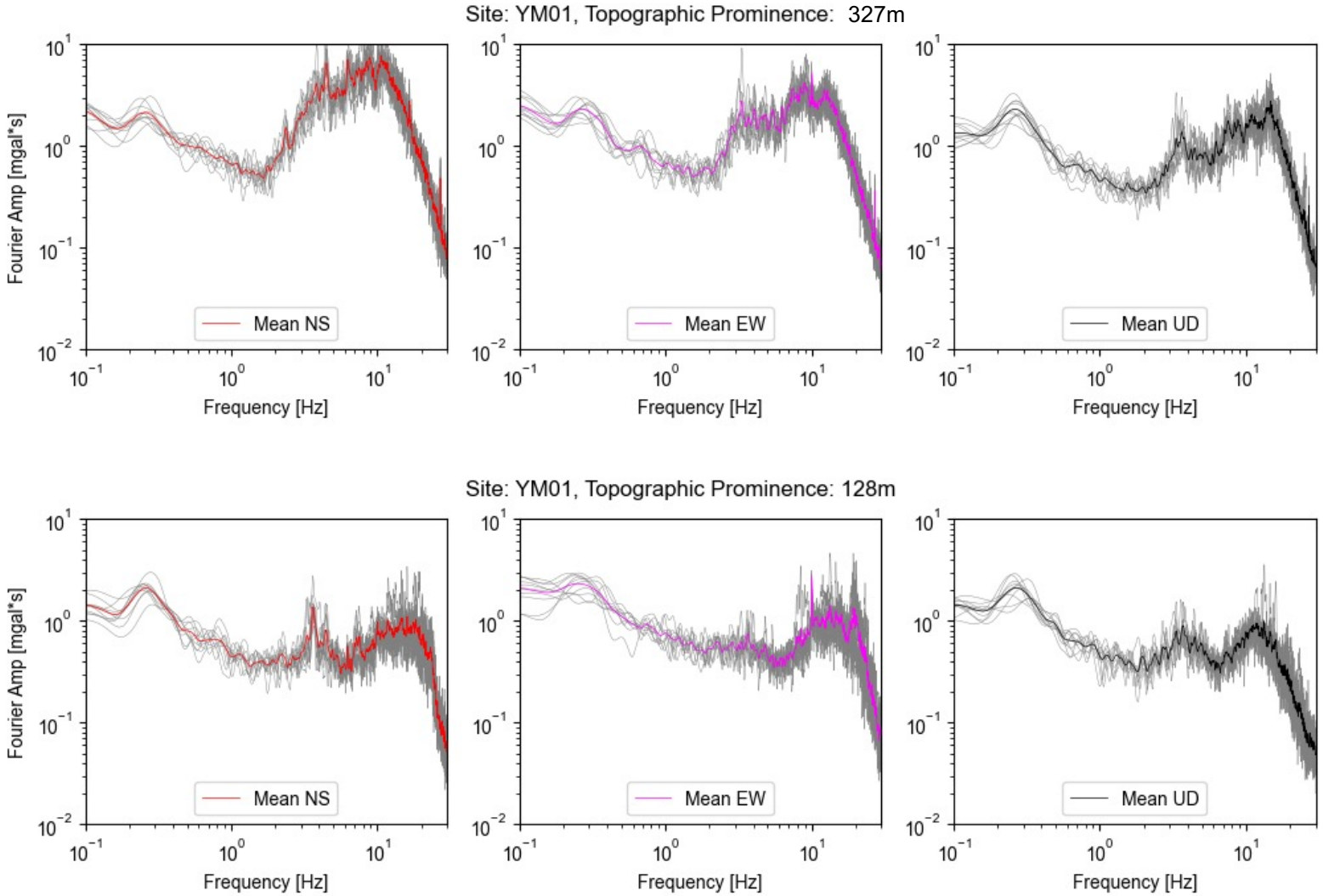
Spectral Amplification
= Fourier Spectra at 70 M
Fourier Spectra at 10 M

MOUNTAIN 2: YM01 (PLAN AND ELEVATION)



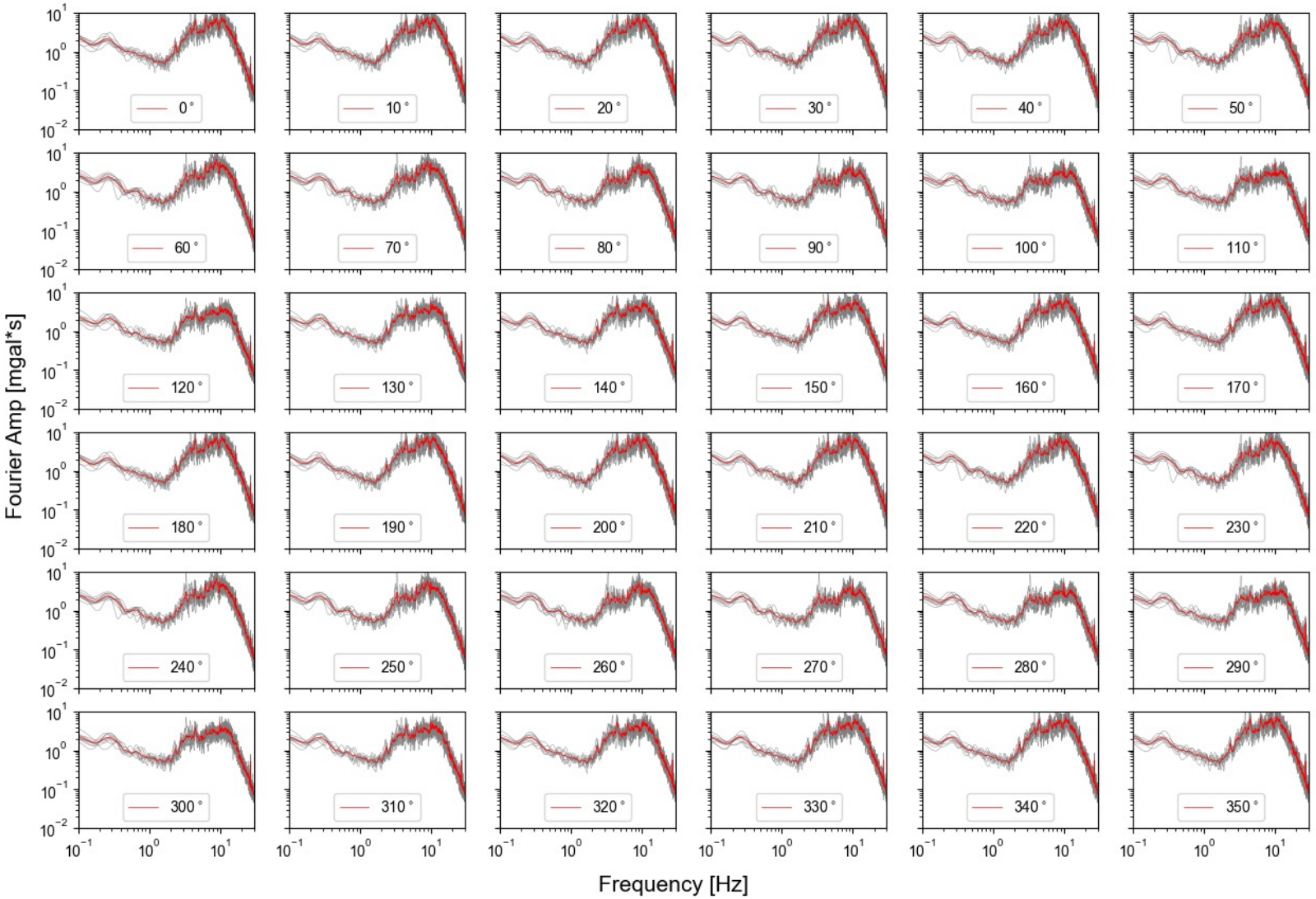


YM01 : FOURIER ACCELERATION SPECTRA AT 327 M and 128 M



Note: The mean Fourier spectra is estimated from 10 recordings of 1-minute long microtremor data

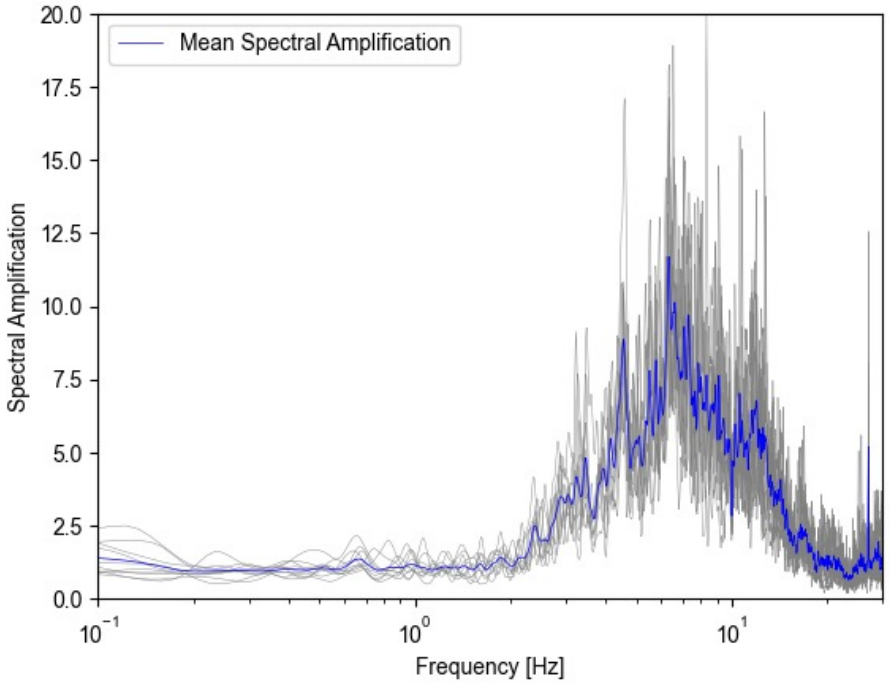
YM01: DIRECTIONAL(HORIZANTAL) FOURIER SPECTRA AT 327 M



Note: At the top of mountain, Fourier spectra at different angles is estimated to investigate the directional properties (NS= 0º and EW = 90º)

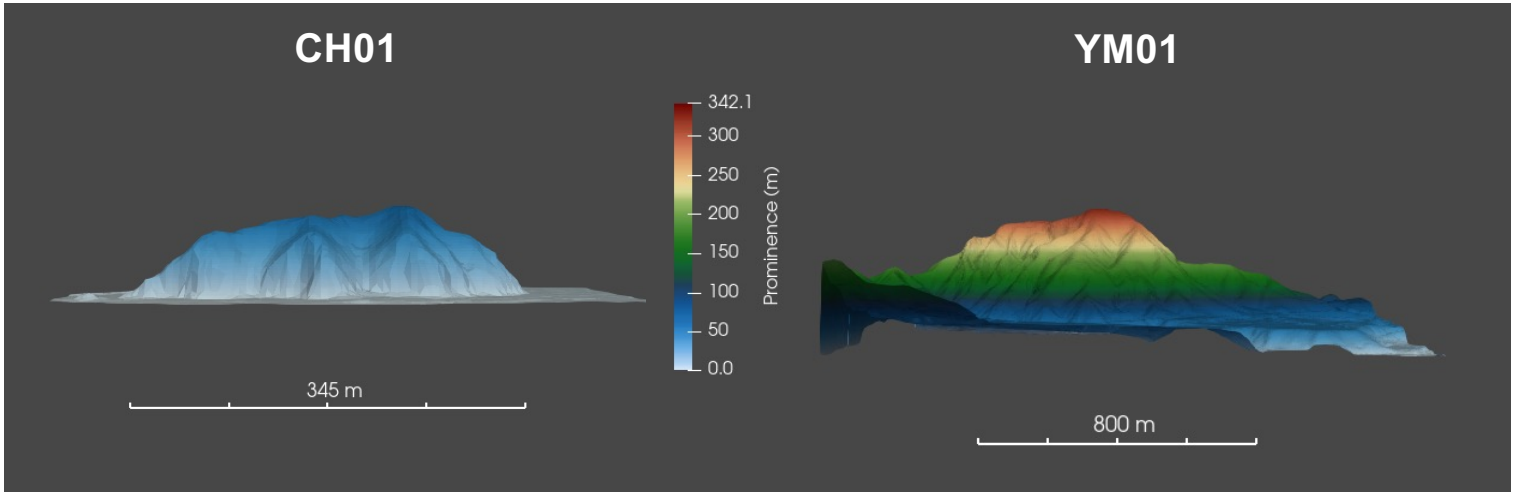
Note: Maximum amplitude of Fourier spectra is observed at 20º

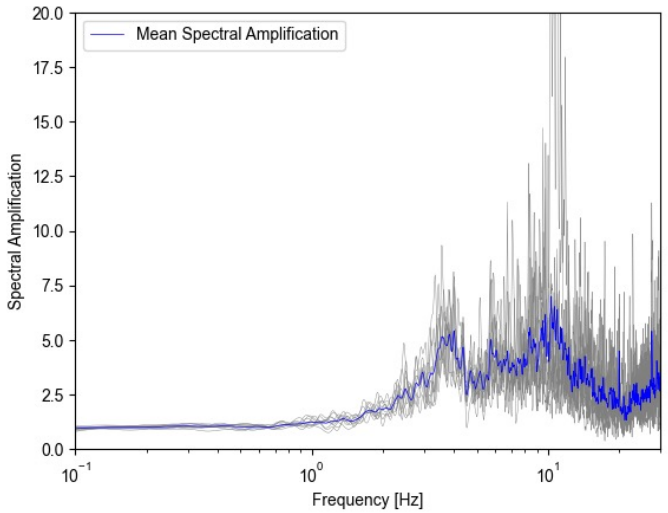
YM01: SPECTRAL AMPLIFICATION



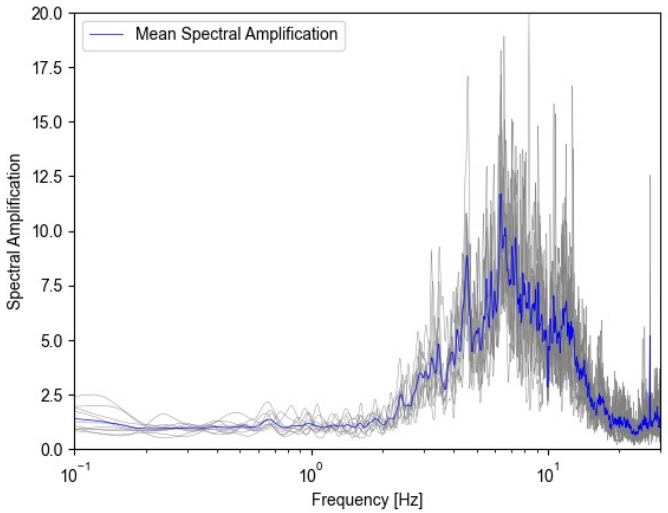
Spectral Amplification
= Fourier Spectra at 327 M
Fourier Spectra at 128 M

まとめ





Elevation Difference: 60 M



Elevation Difference: 200 M

- IN CH01, predominant peaks are observed in 3-5 Hz.
- IN YM01, predominant peaks are observed in 5-9 Hz.
- The amplitude of spectral amplification increases with the increase in elevation.

ありがとうございました。