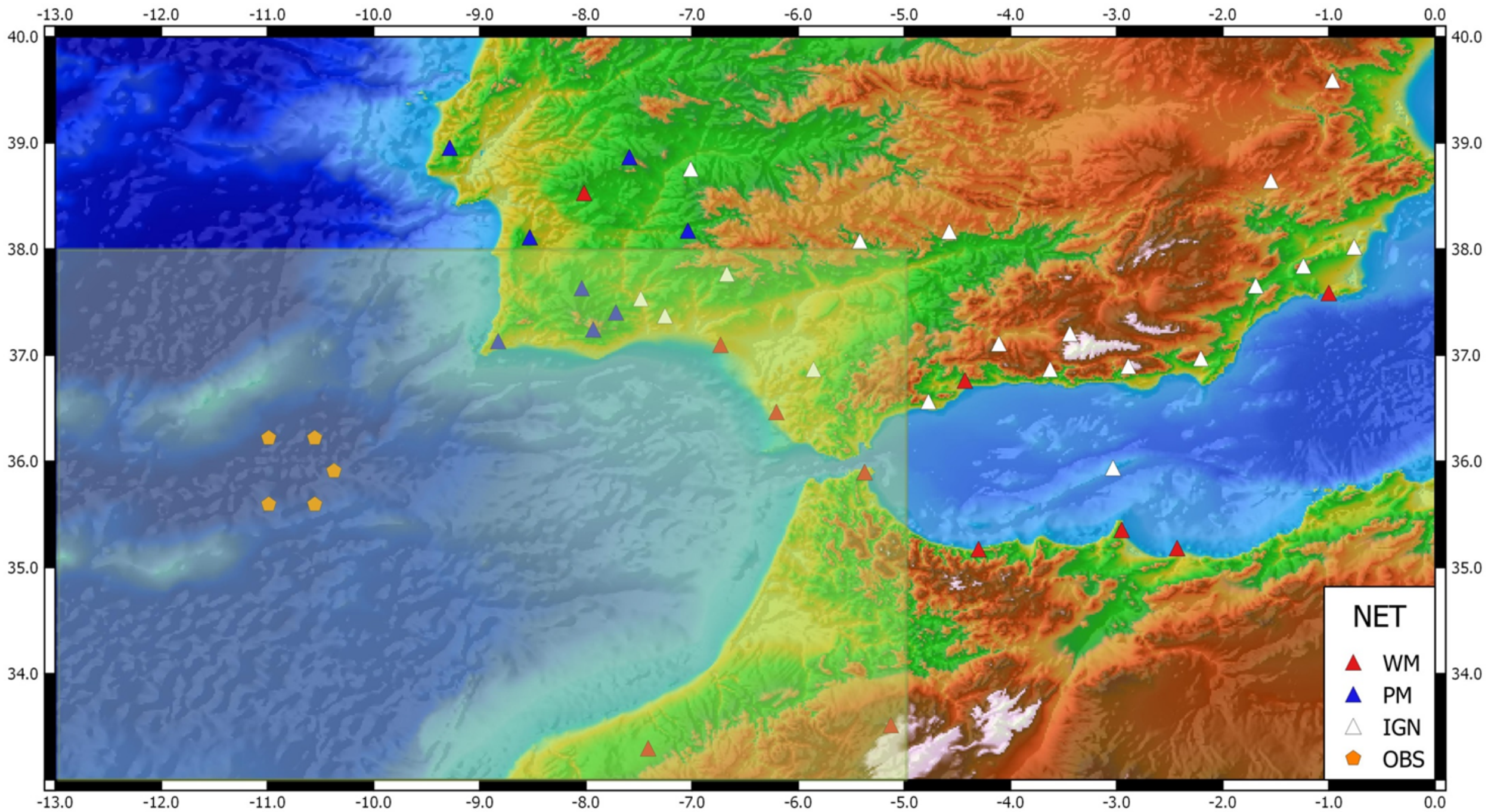
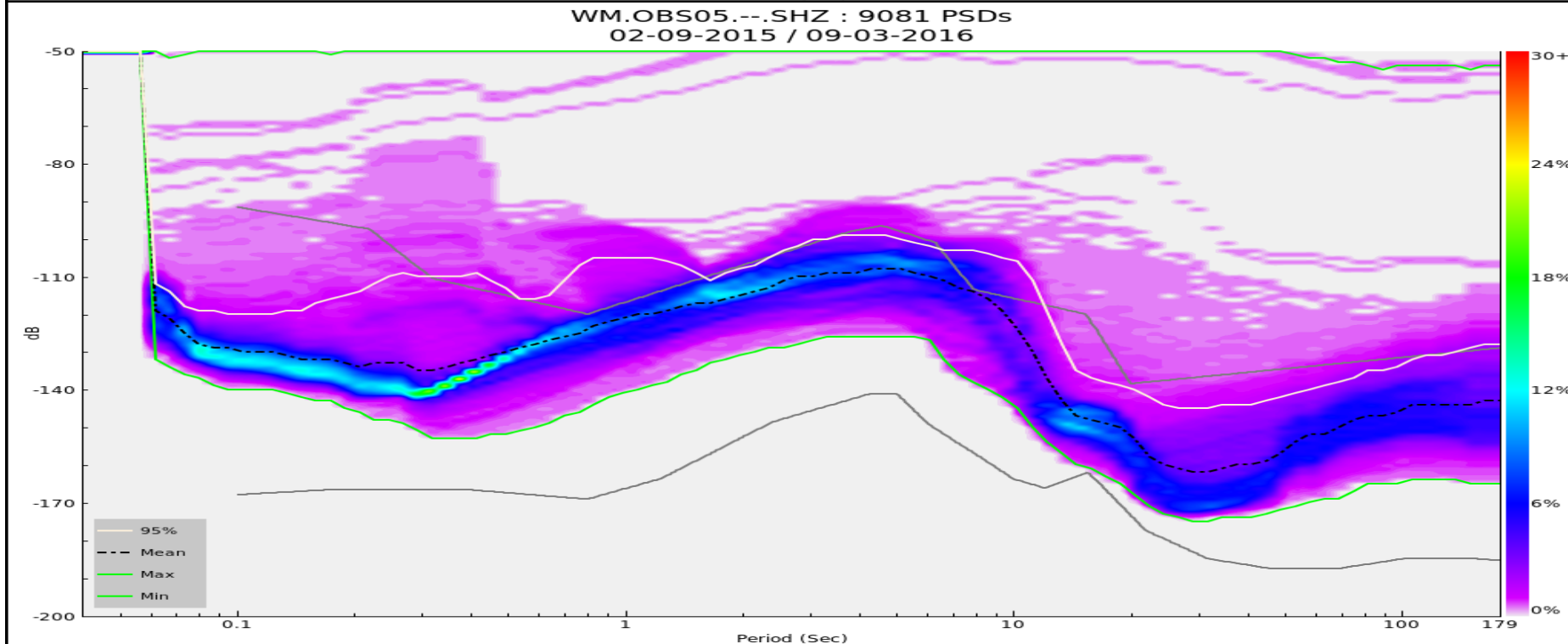
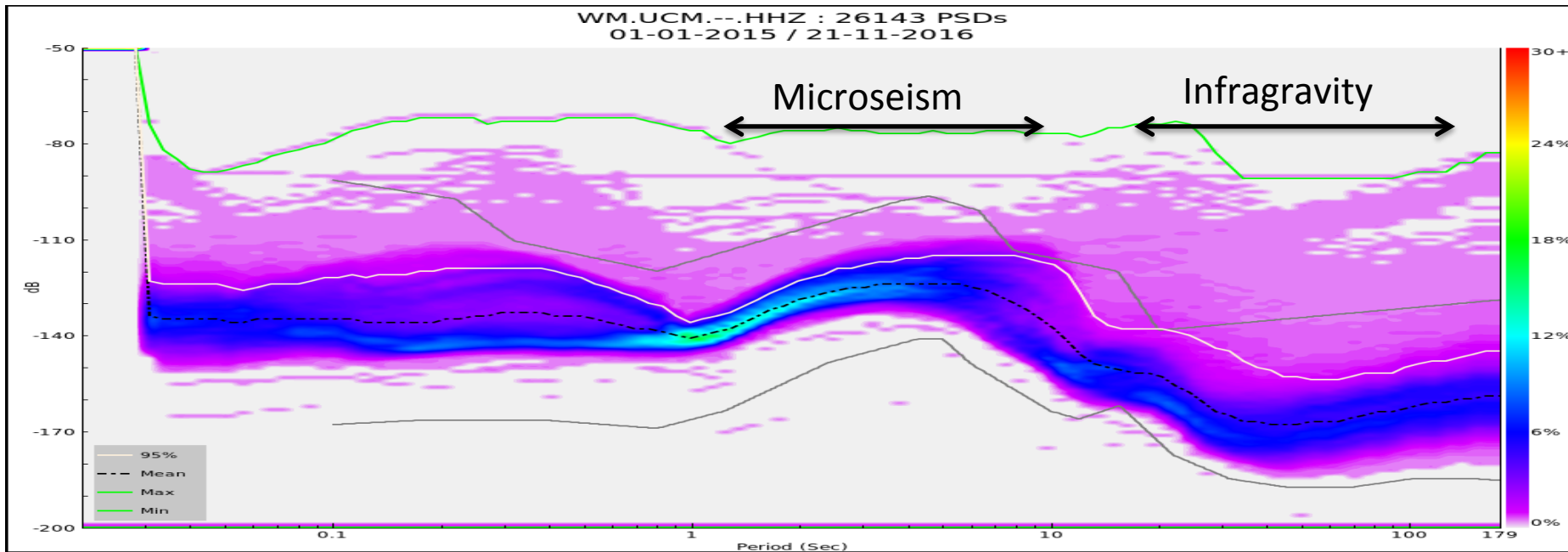
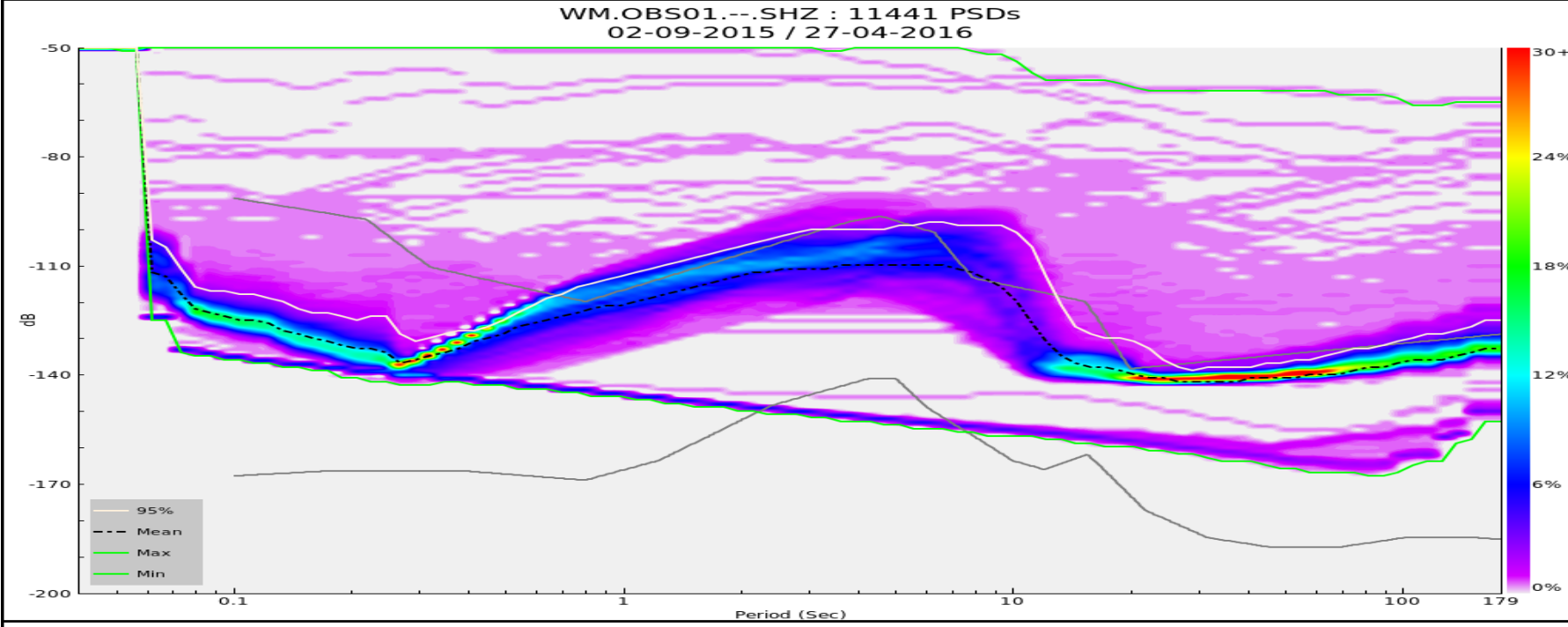


San Vicente OBS deployment Experiment

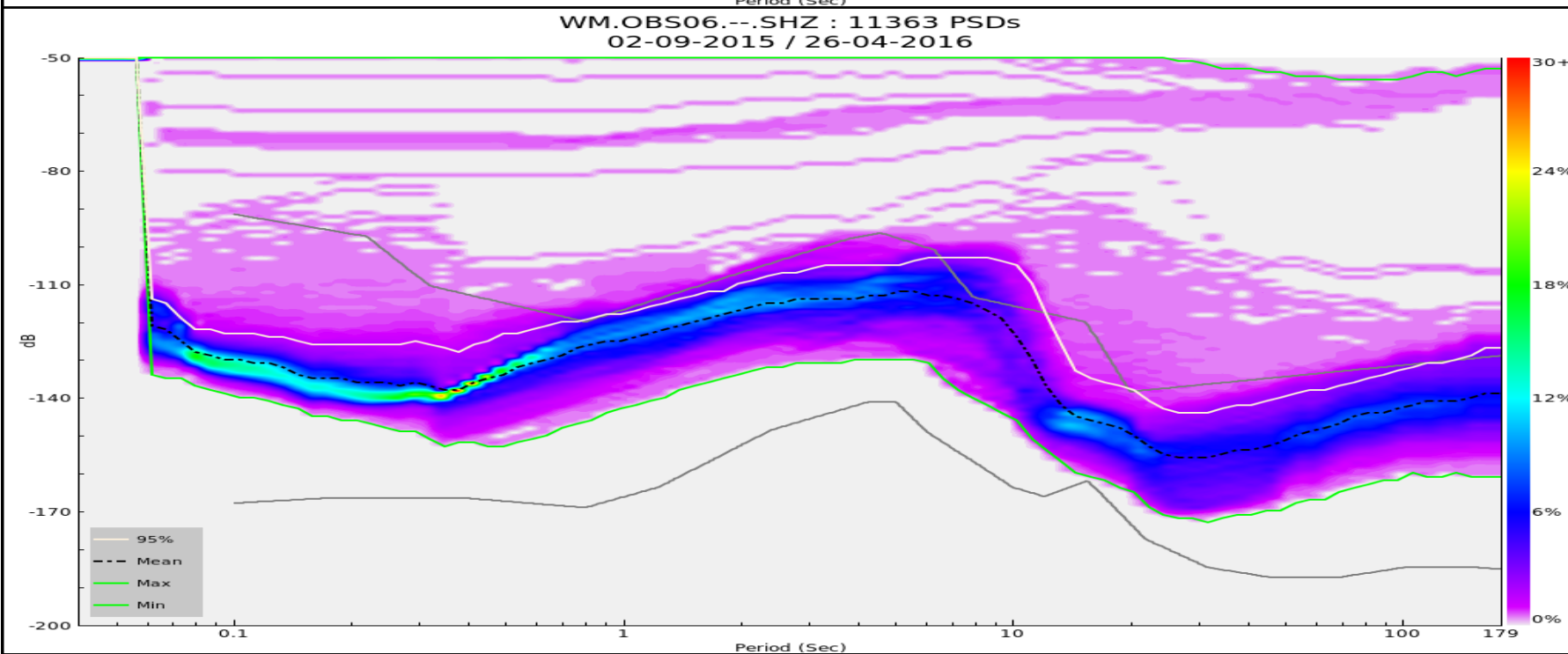
Removing Tilt and Compliance noise







CMT-40T



Trillium
compact

THEORY

$$G_{\downarrow ss}(f \downarrow j) = 2/n \downarrow d N \Delta t = \sum_{i=1}^{\uparrow n \downarrow d} |S_{\downarrow i}(f \downarrow j)|^2 \quad , j=0,1,\dots,N/2$$

$$G_{\downarrow rs}(f \downarrow j) = 2/n \downarrow d N \Delta t = \sum_{i=1}^{\uparrow n \downarrow d} R_{\downarrow i}^* (f \downarrow j) S_{\downarrow i}(f \downarrow j) \quad , j=0,1,\dots,N/2$$

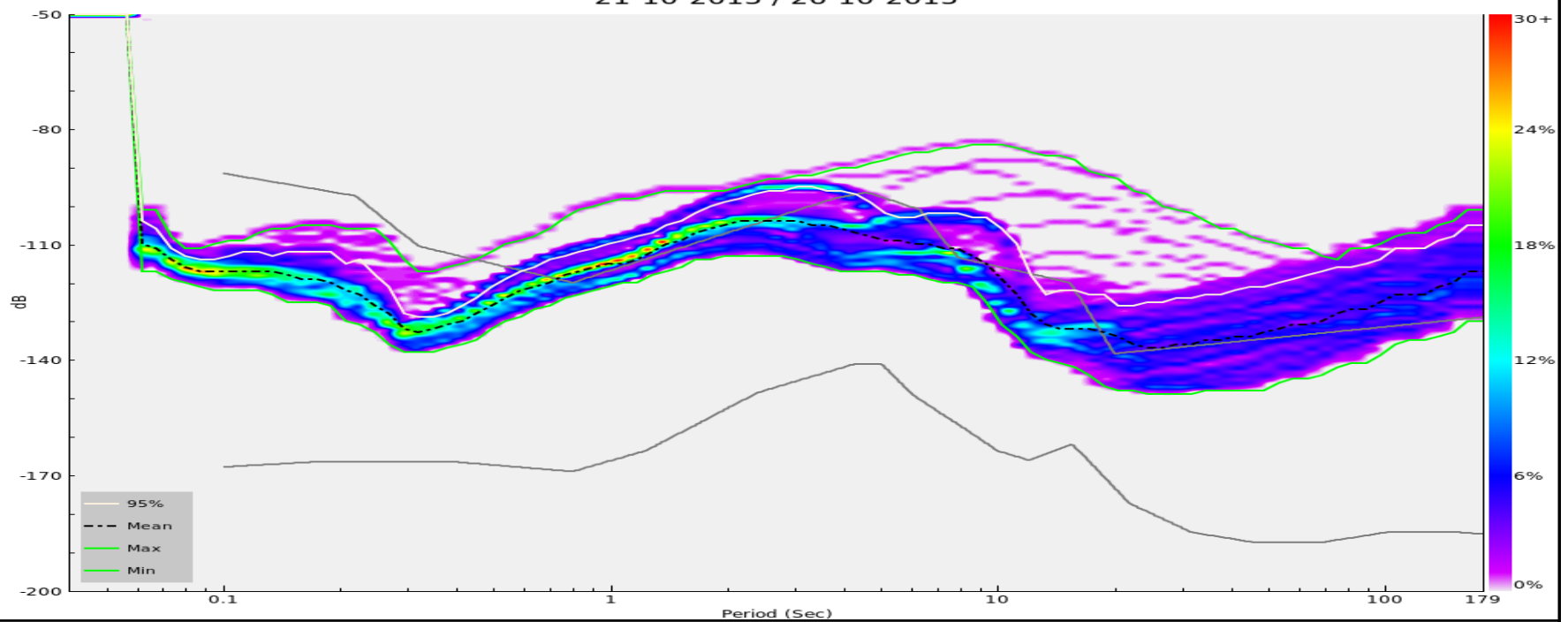
$$\gamma_{\downarrow rs}(f \downarrow j) = 2/n \downarrow d N \Delta t = \sum_{i=1}^{\uparrow n \downarrow d} R_{\downarrow i}^* (f \downarrow j) S_{\downarrow i}(f \downarrow j) \quad , j=0,1,\dots,N/2$$

$$A_{\downarrow rs}(f) = \gamma_{\downarrow rs}(f) \sqrt{G_{\downarrow rr}(f)/G_{\downarrow ss}(f)} = G_{\downarrow rs}(f)/G_{\downarrow ss}(f)$$

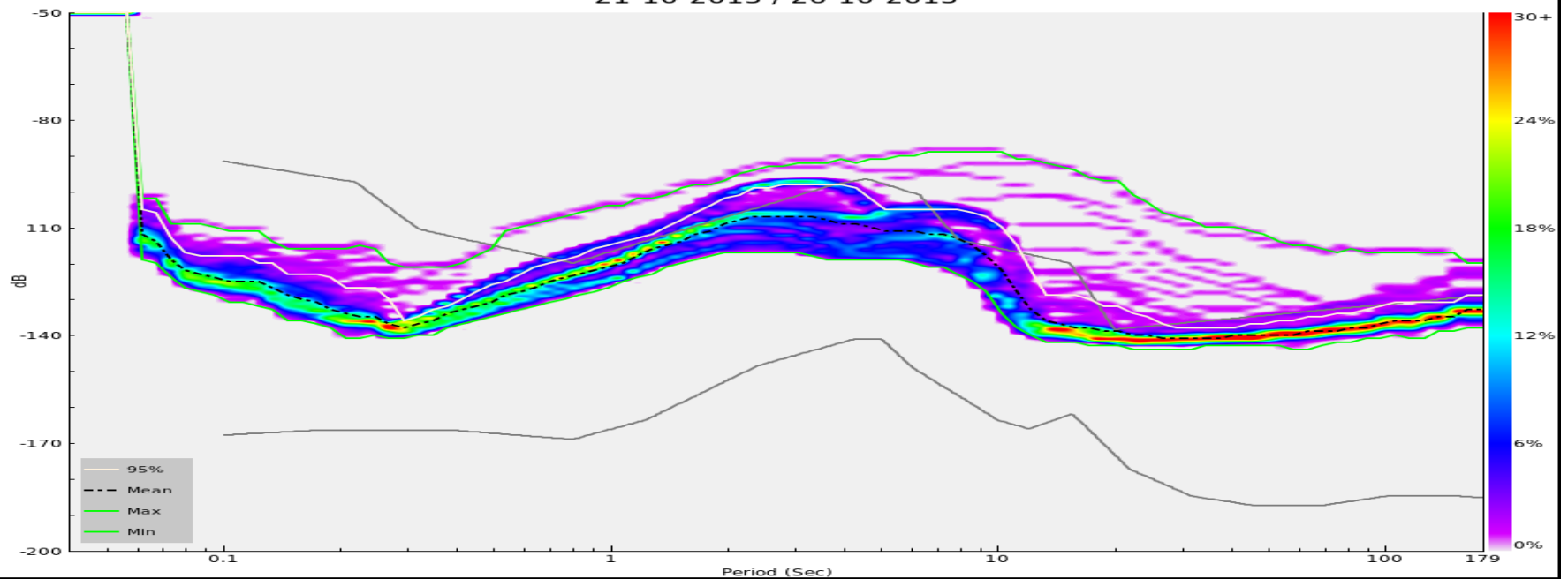
$$R_{\downarrow i}^{\uparrow}(f) = R_{\downarrow i}(f) - A_{\downarrow rs}^{\uparrow}(f) S_{\downarrow i}(f)$$

$$R_{\downarrow i}^{\uparrow}(t) = R_{\downarrow i}(t) - A_{\downarrow rs}^{\uparrow}(t) * S_{\downarrow i}(t)$$

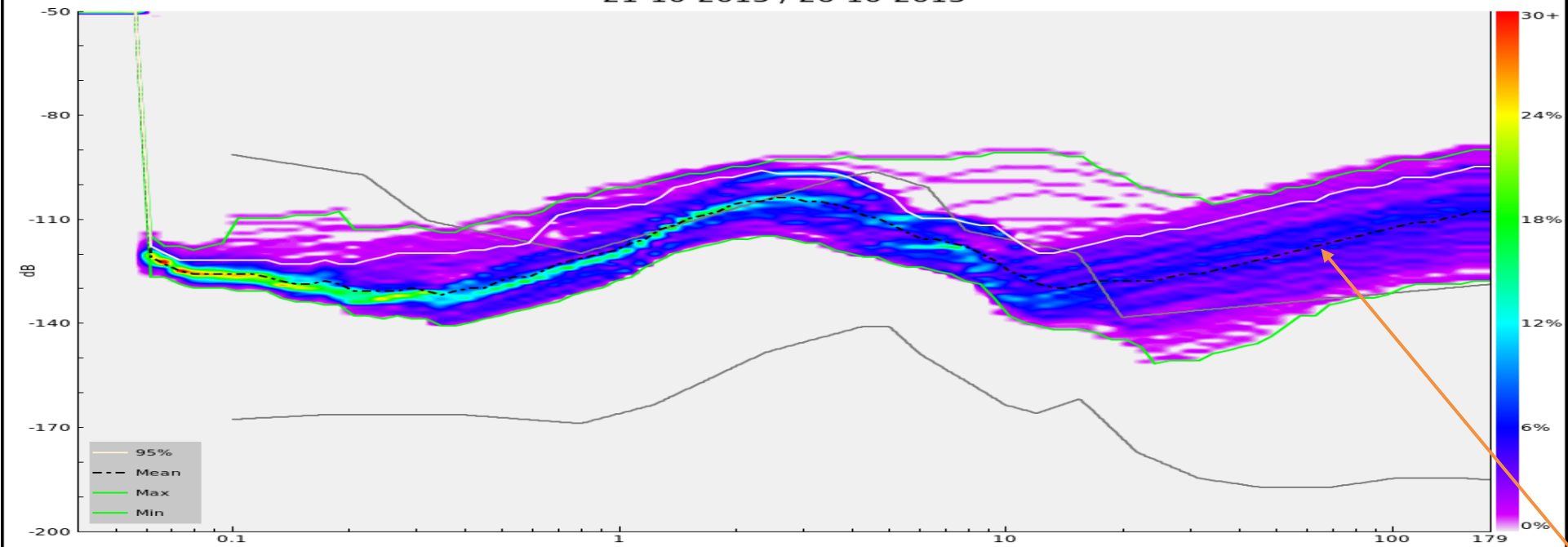
WM.OBS01---.SHX : 286 PSDs
21-10-2015 / 26-10-2015



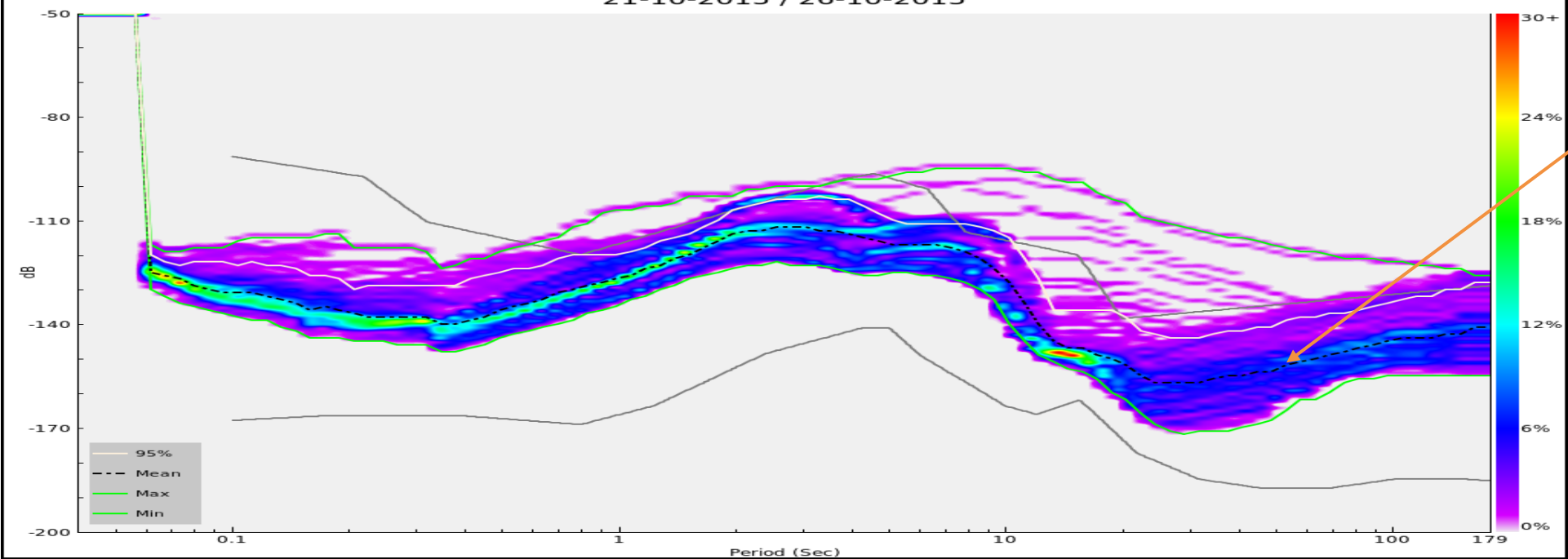
WM.OBS01---.SHZ : 287 PSDs
21-10-2015 / 26-10-2015



WM.OBS06---.SHX : 286 PSDs
21-10-2015 / 26-10-2015



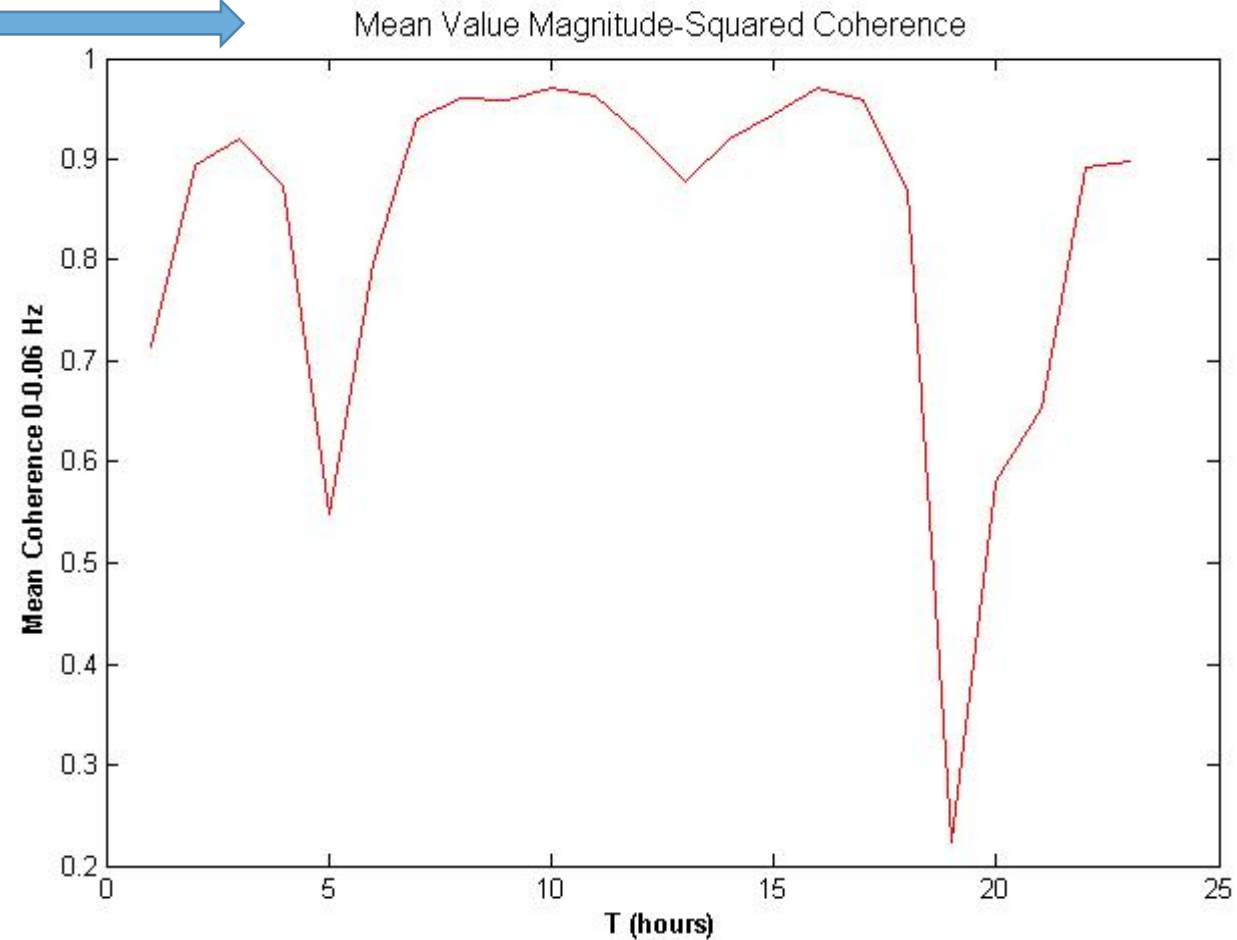
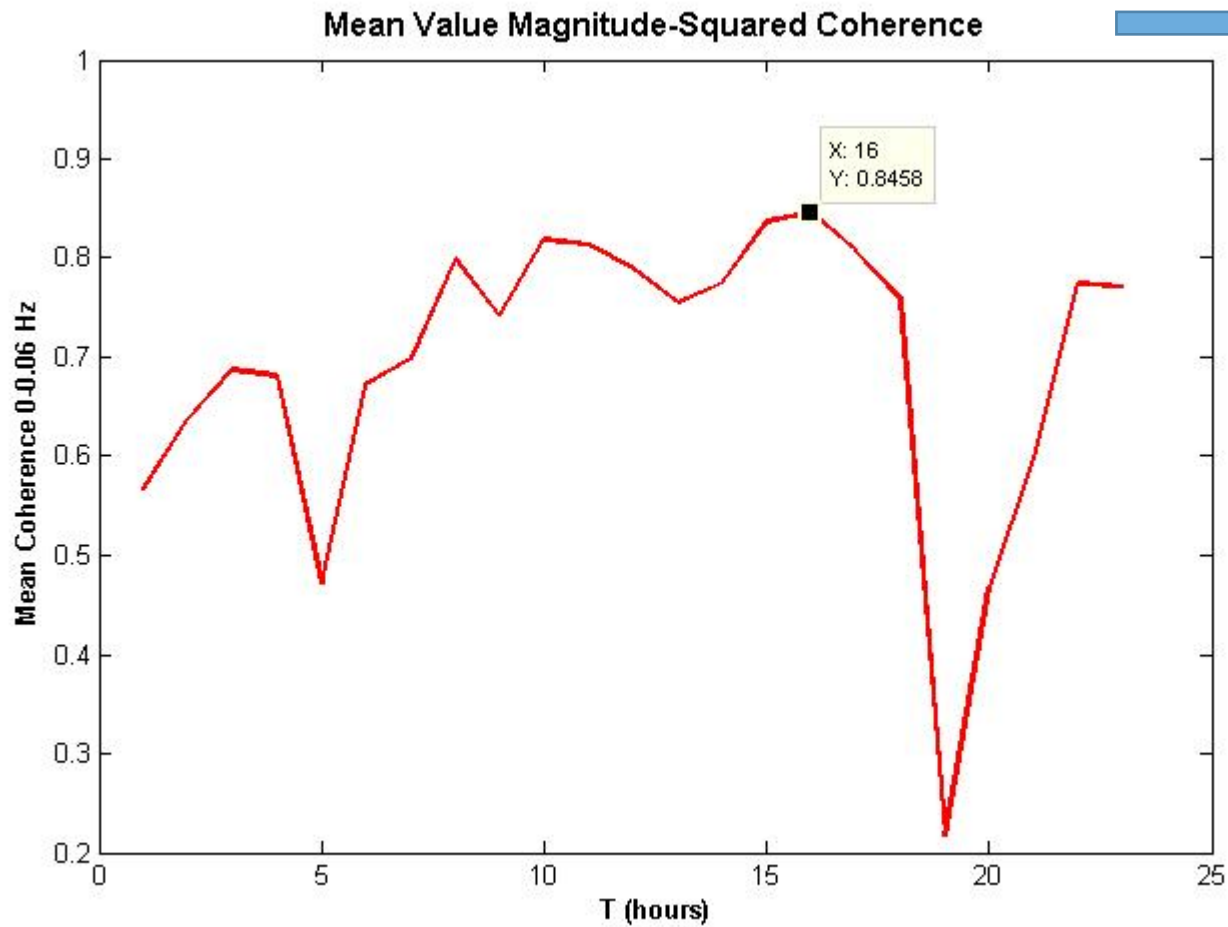
WM.OBS06---.SHZ : 286 PSDs
21-10-2015 / 26-10-2015



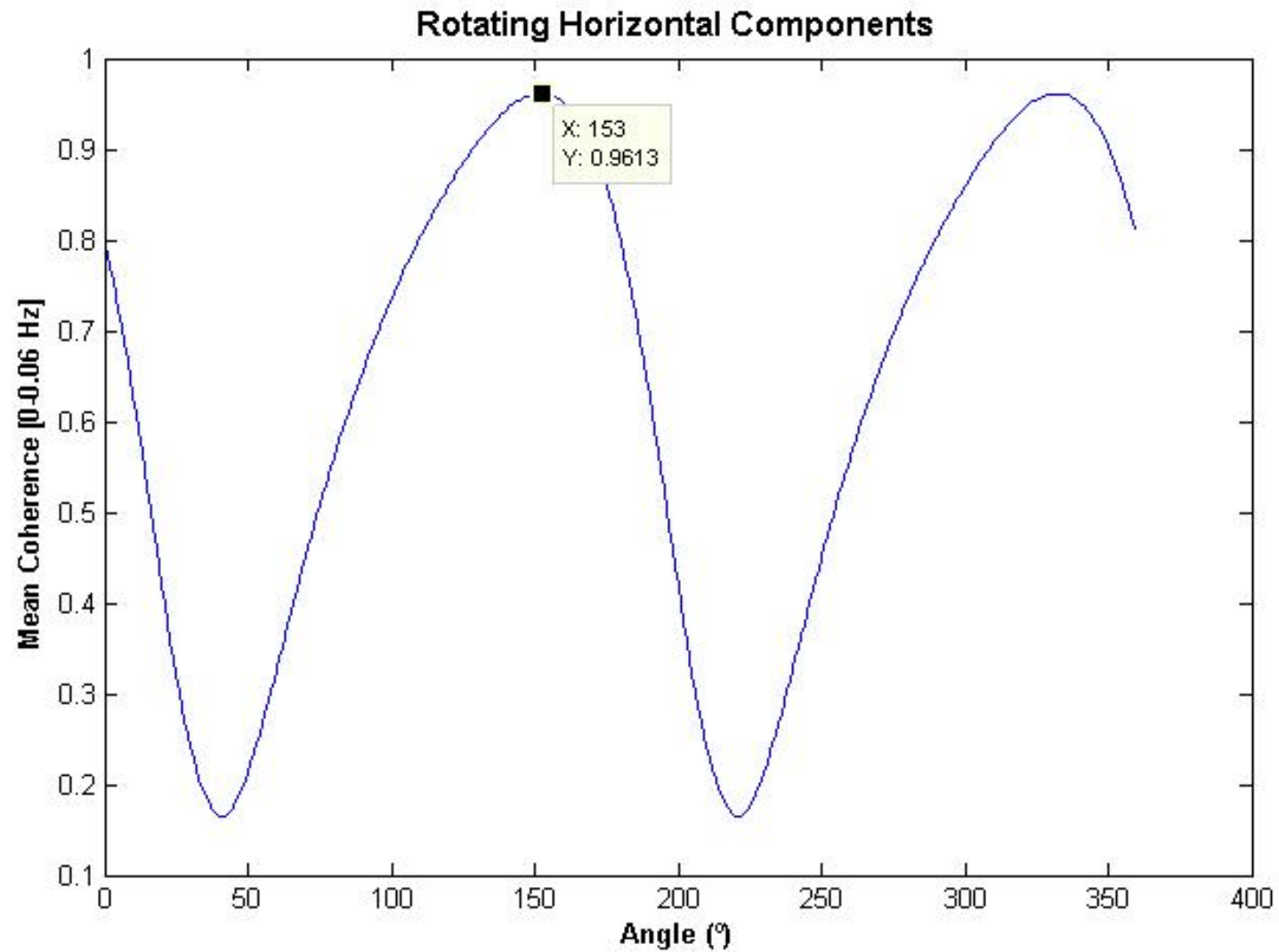
SHX>>SHZ

Rotating

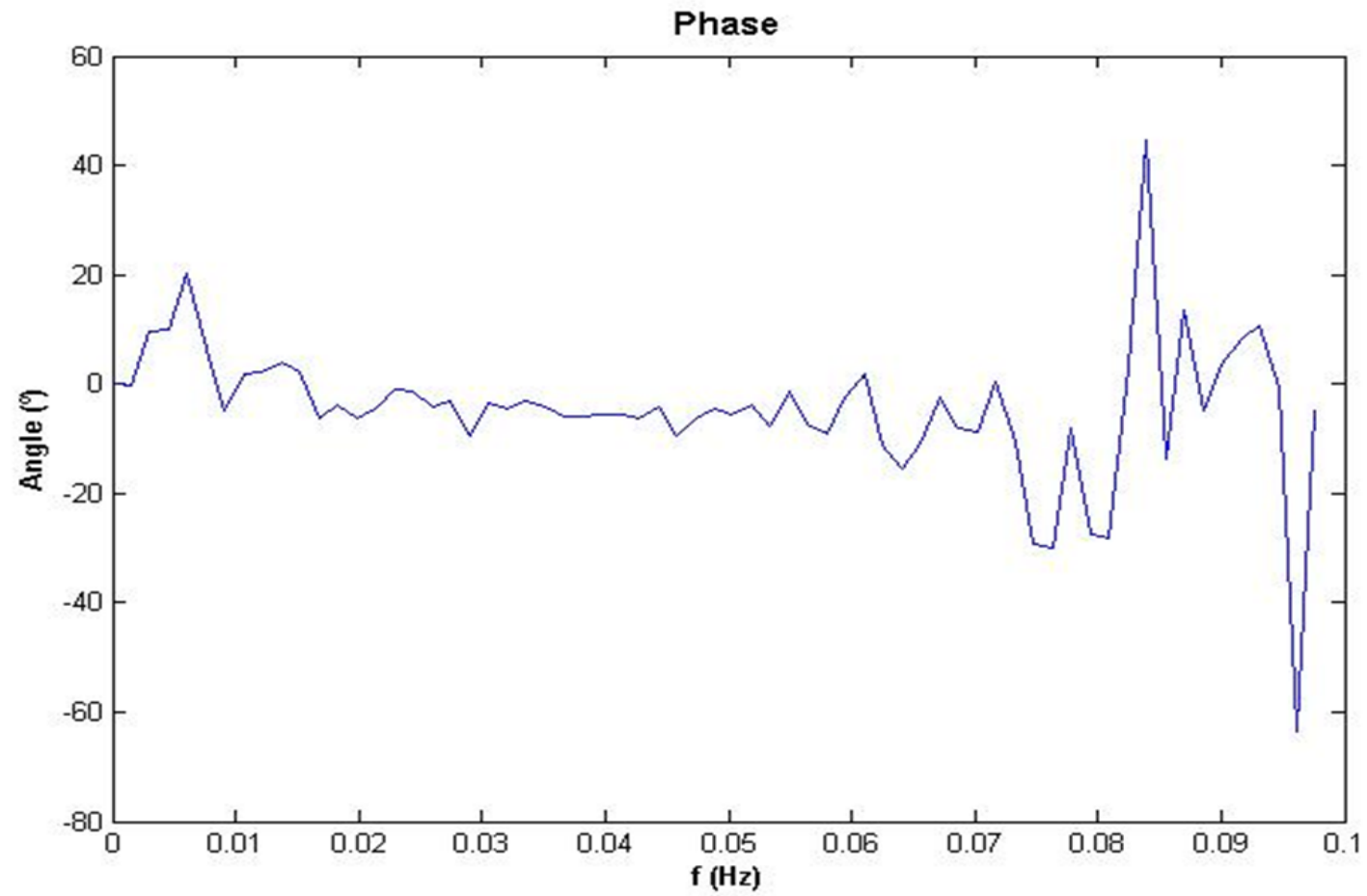
Rotating Horizontal components to find the maximum coherence



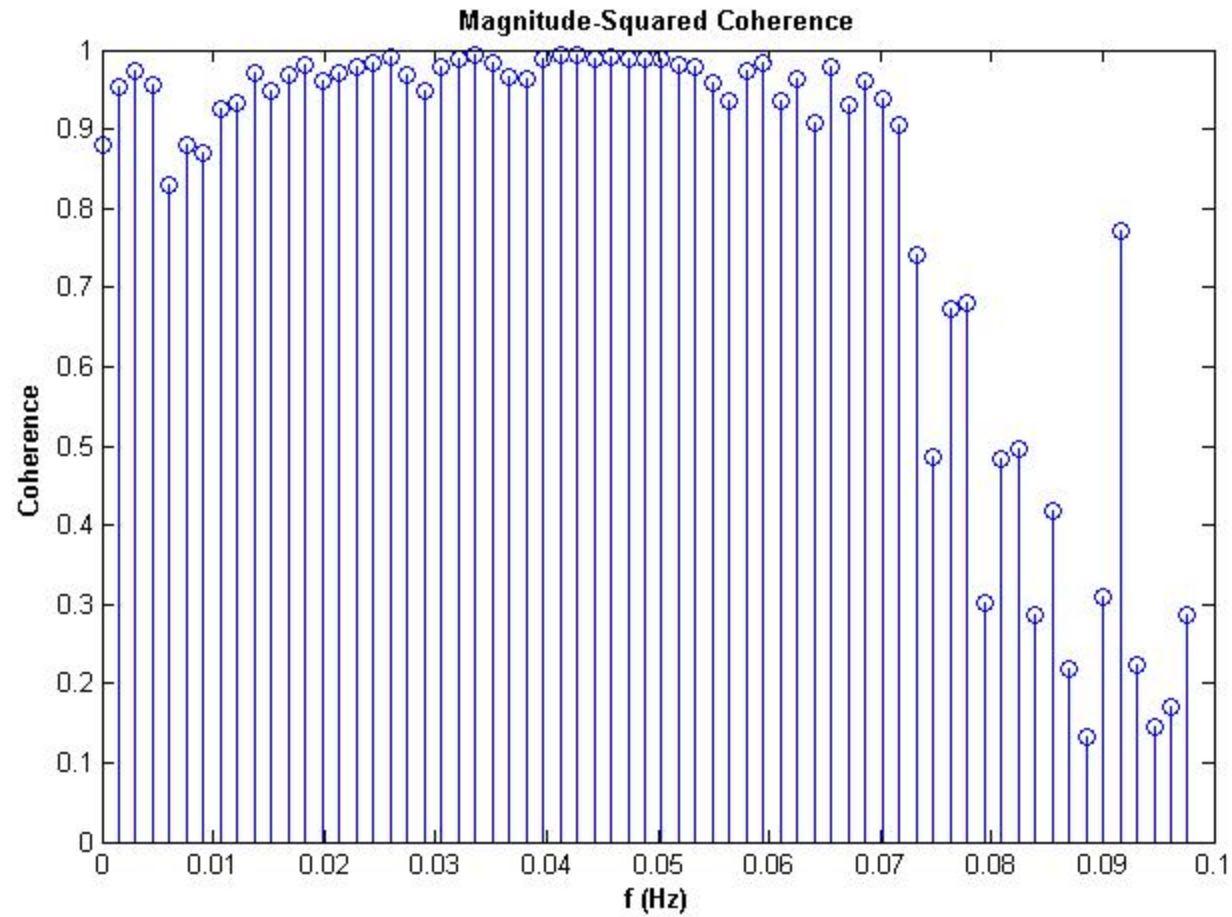
Rotating



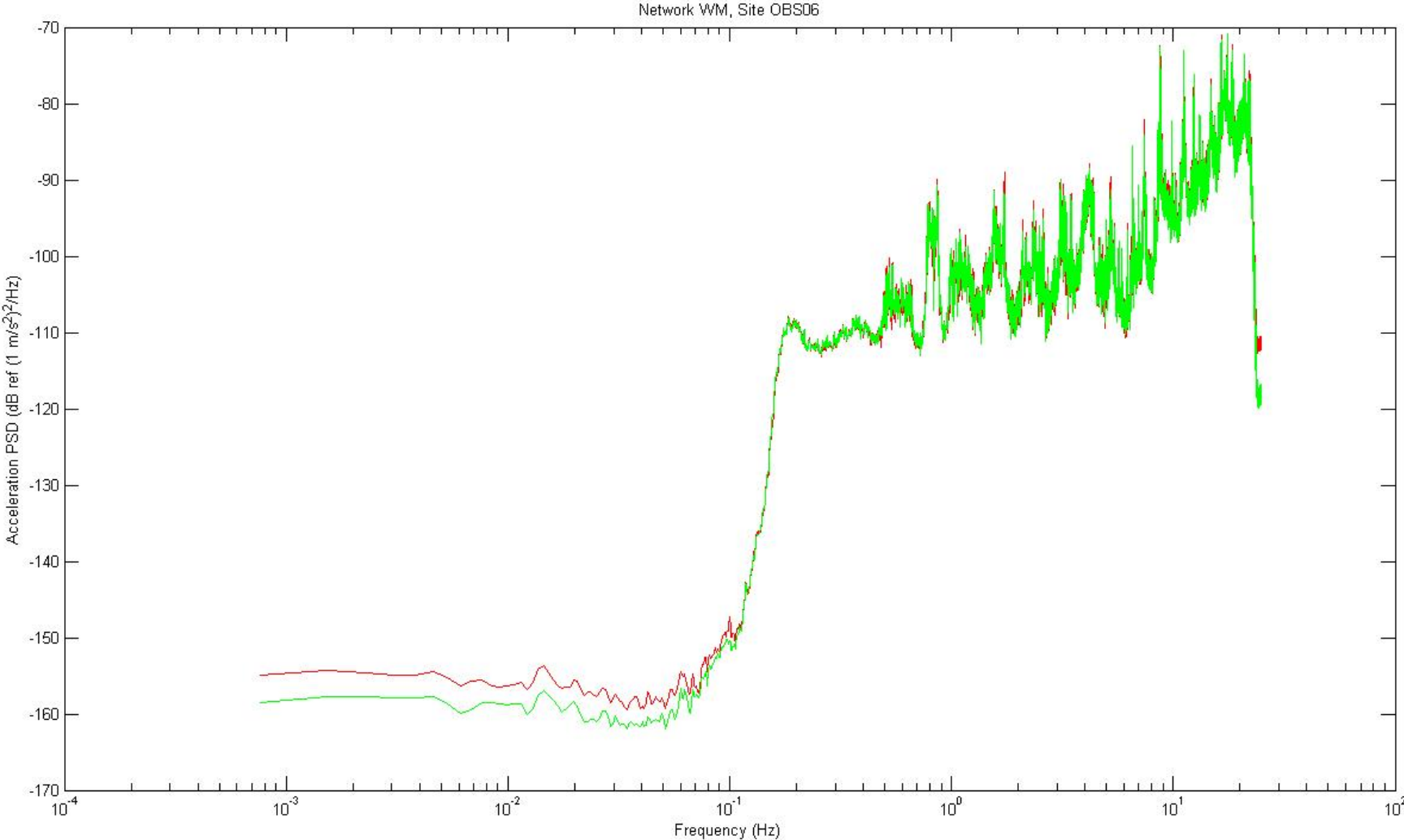
Phase

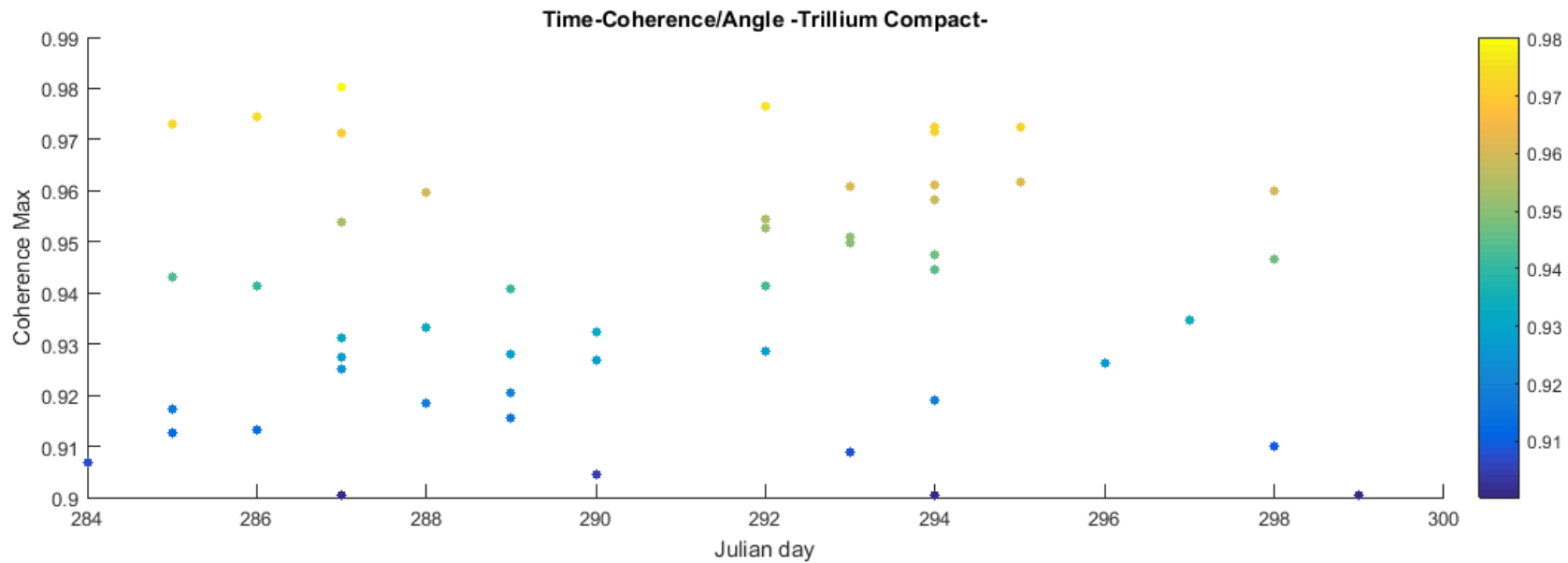


Magnitude Square Coherence 0-0.06 Hz

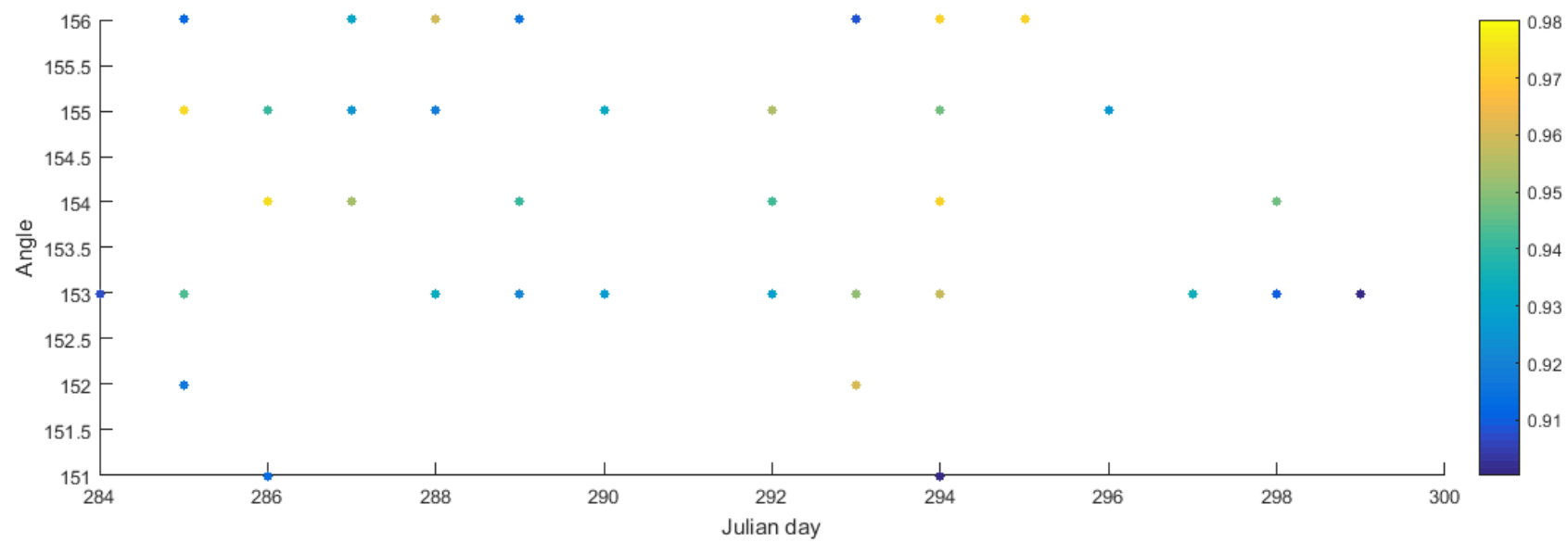


Acceleration Spectrum



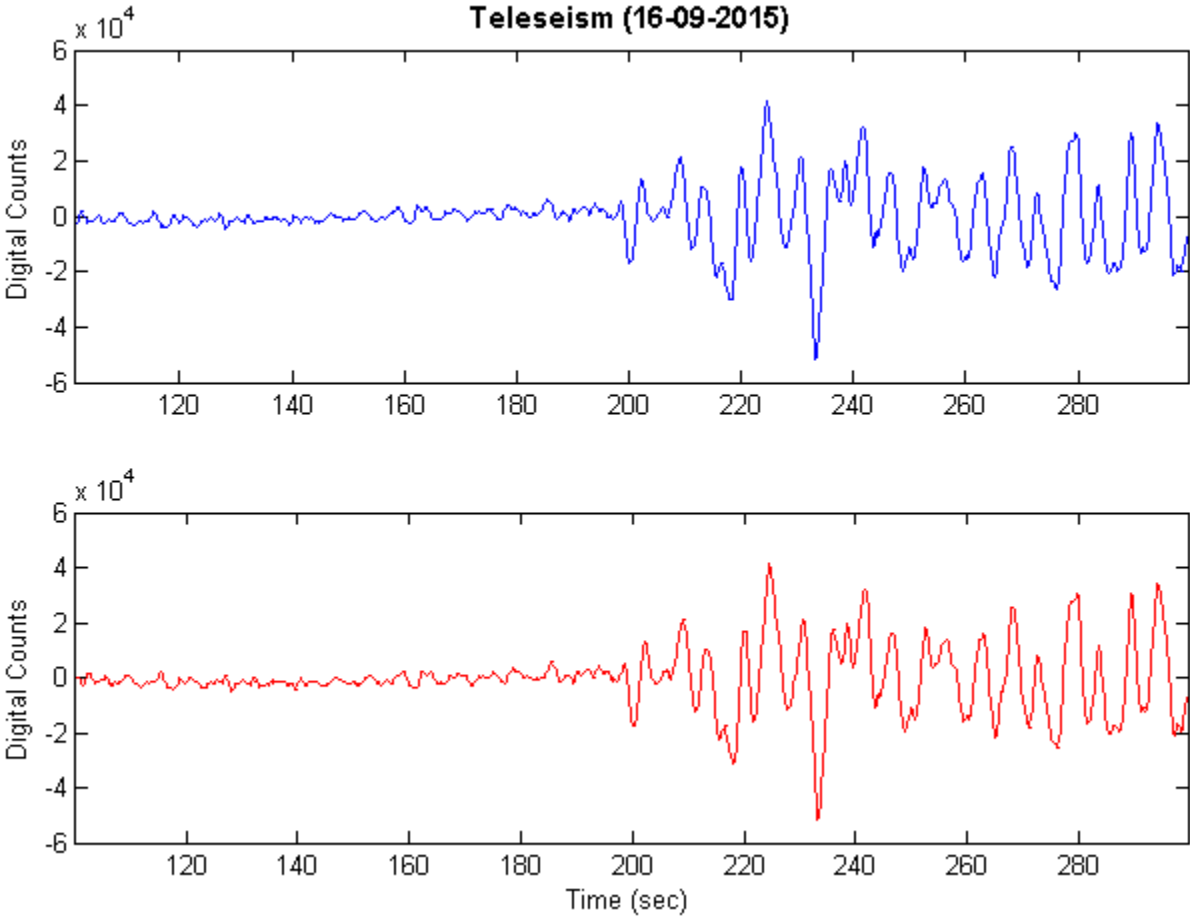


Max
coherence=0.98,
0-0.6 Hz



$151 < \alpha < 156$

Time (Teleseism)



Conclutions

- Low Coherence 0-0.06 Hz for Deep Atlantic Ocean region
- Poor denoising results
- Hydrophone is **not** useful for removing Compliance Noise