

Supplementary material for “Seismic array measurements in the Italian candidate site for the Einstein Telescope, the third-generation gravitational wave detector”

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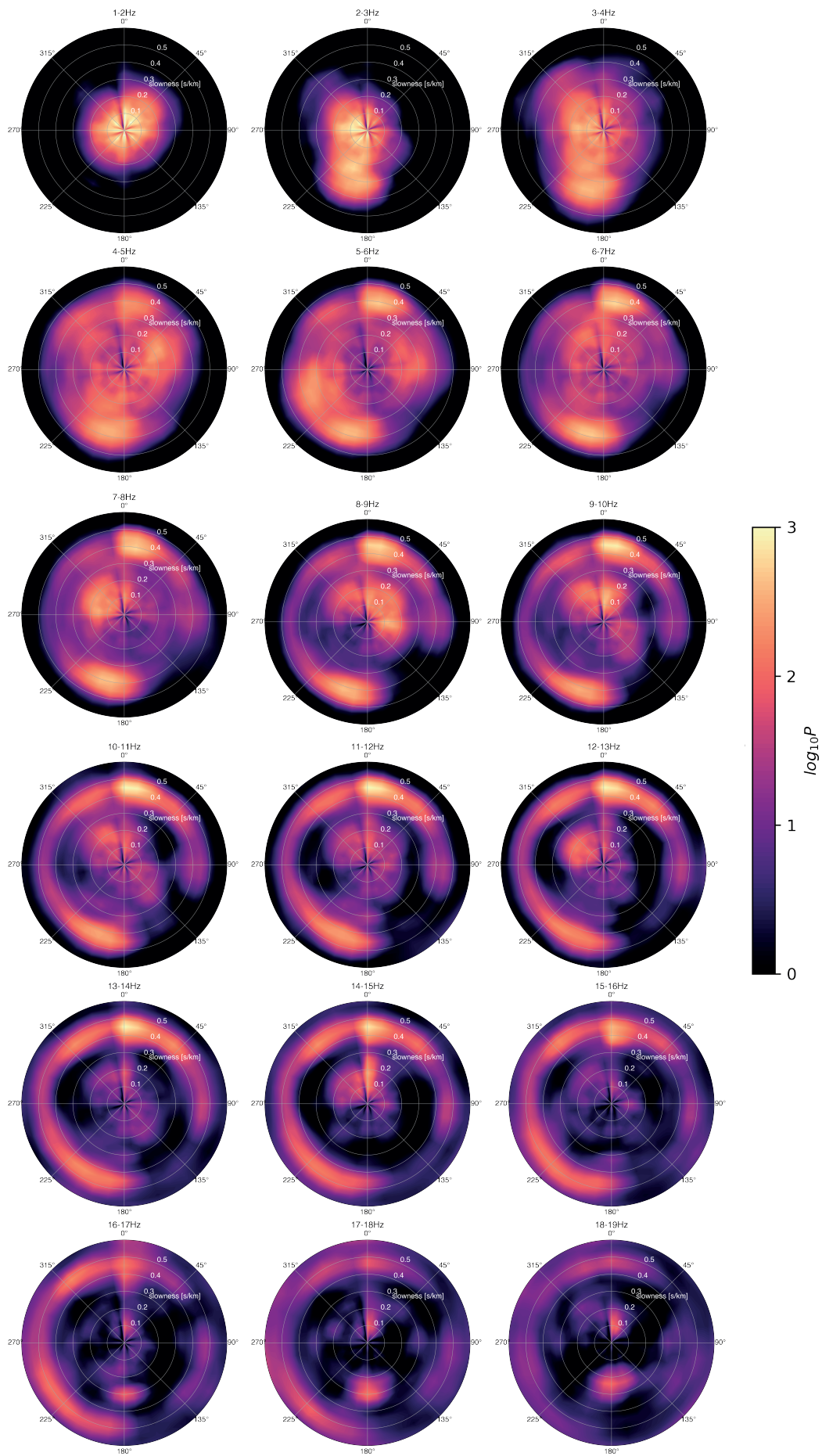
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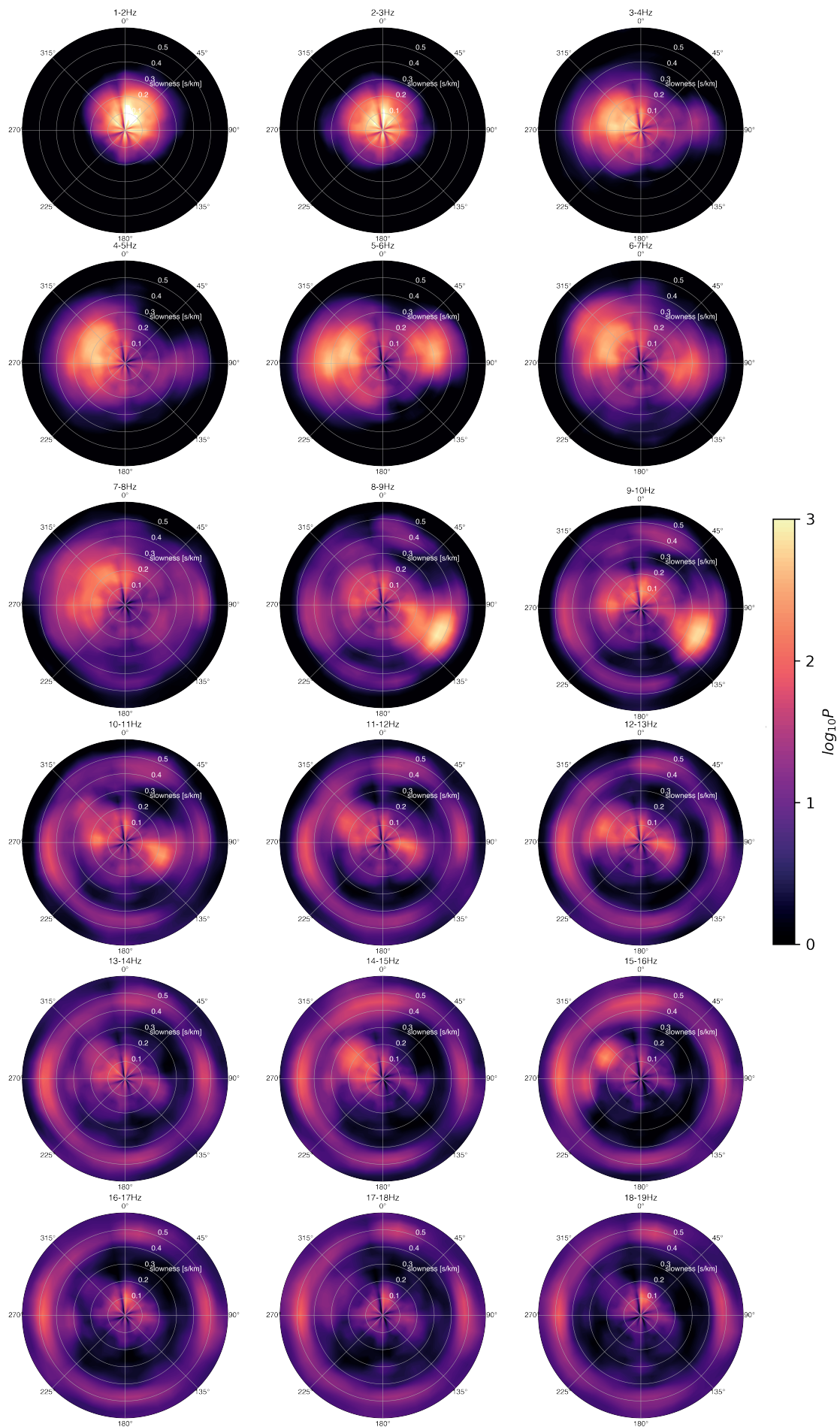
Beamforming results for the arrays P2, P3, and P2 (2024) between 1 and 19 Hz, in narrow-bands of 1 Hz.

SM4

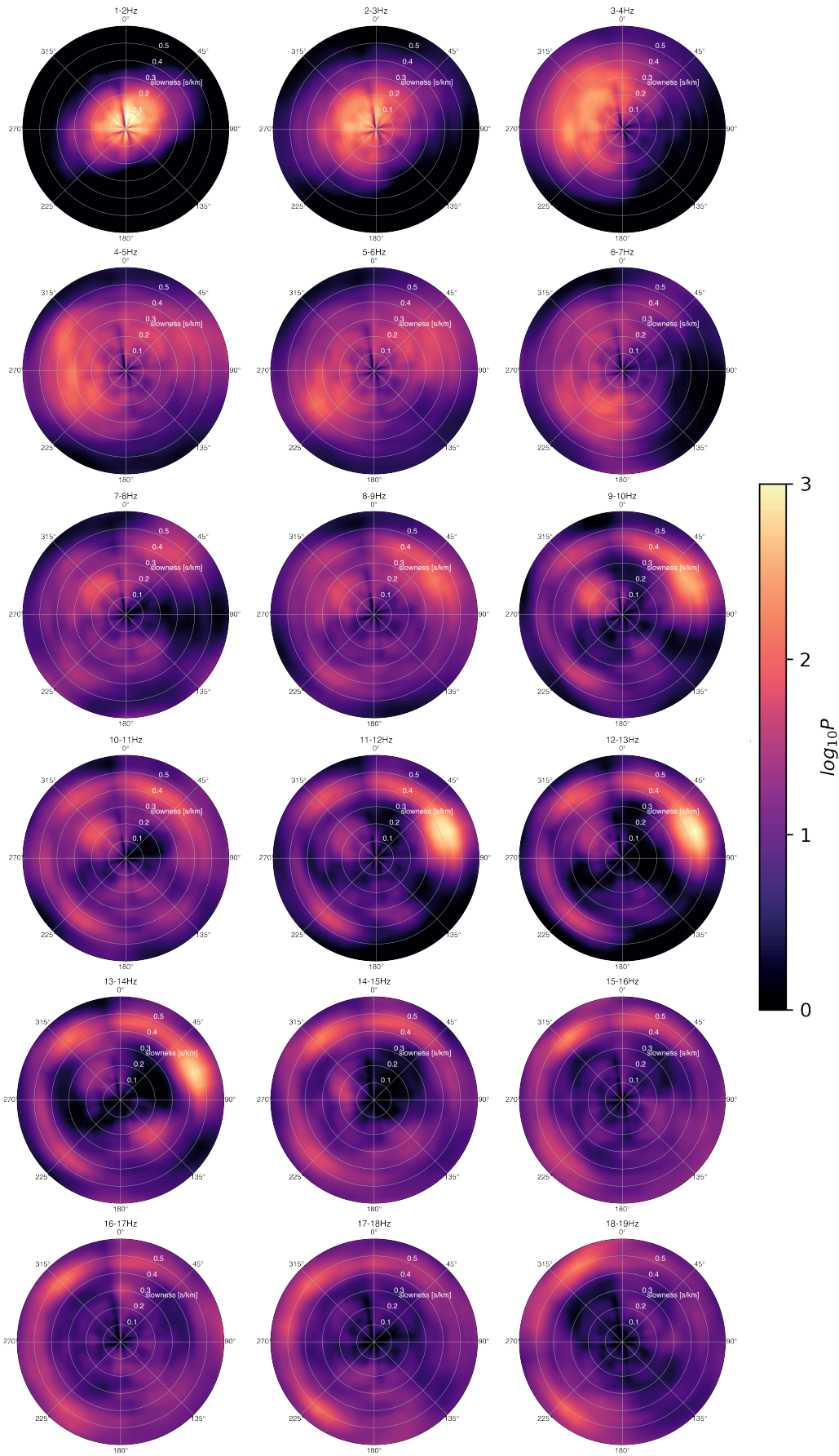
Signal coherence (Welch, 1967) calculated for all possible stations pairs in the P2, P3 and P2 (2024) arrays.



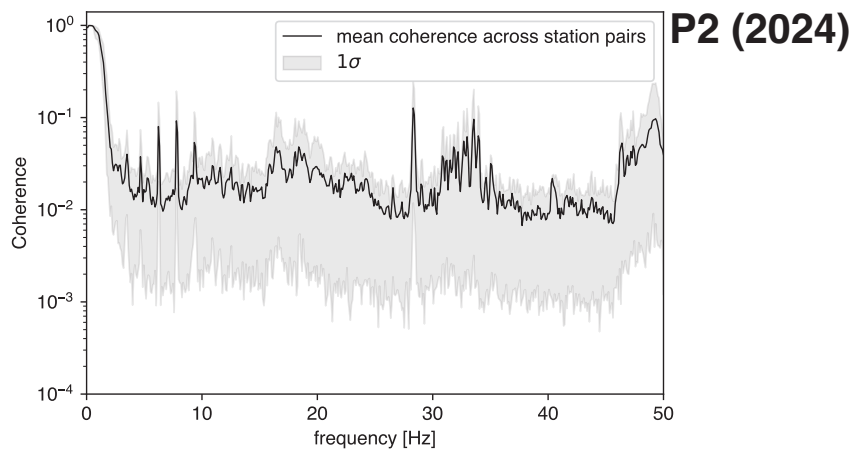
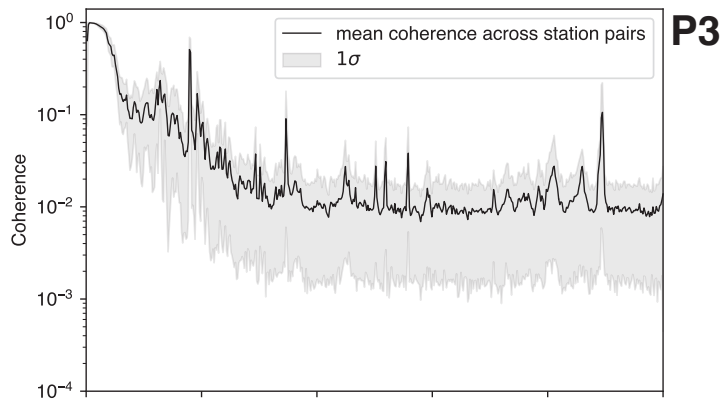
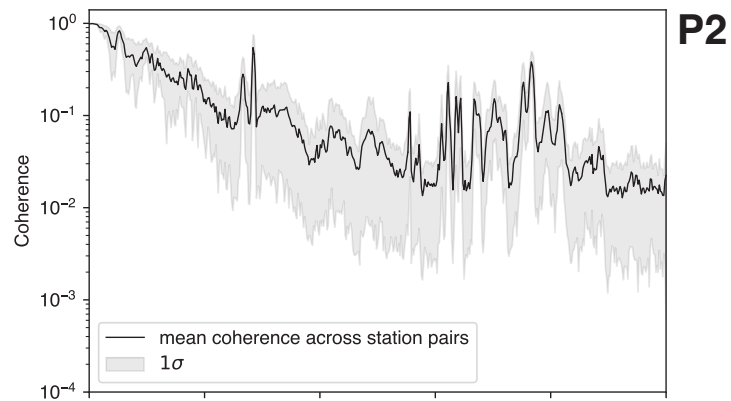
SM1 Beamforming results in narrow (1 Hz) frequency steps, between 1 and 19 Hz, for the array P2.



SM2 Beamforming results in narrow (1 Hz) frequency steps, between 1 and 19 Hz, for the array P3.



SM3 Beamforming results in narrow (1 Hz) frequency steps, between 1 and 19 Hz, for the array P2 (2024).



SM4 Signal coherence (Welch, 1967) calculated for all possible stations pairs in the P2, P3 and P2 (2024) arrays. The black line indicate the mean coherence for all station pairs, while the shaded area indicate the dispersion around the mean in terms of one standard deviation. Coherence is calculated using the Welch method (Welch, 1967) on a 15-min signal interval, in 50% overlapping windows of 1028 samples each.

Bibliography

P. Welch, "The use of the fast Fourier transform for the estimation of power spectra: A method based on time averaging over short, modified periodograms", IEEE Trans. Audio Electroacoust. vol. 15, pp. 70-73, 1967.