

Supplementary Material 1

1 EXAMPLE CROSS-CORRELOGRAMS

This supplementary material shows example cross-correlograms. Two types of cross-correlograms are shown: one based on clicks (Figure S1.1) and one based on whistles (Figure S1.2). The processing is described in the paper and in Ref. (Gruden et al., 2021). The cross-correlograms show changes in Time-Difference-Of-Arrival (TDOA) of a given signal emitted from one or multiple sources through time.

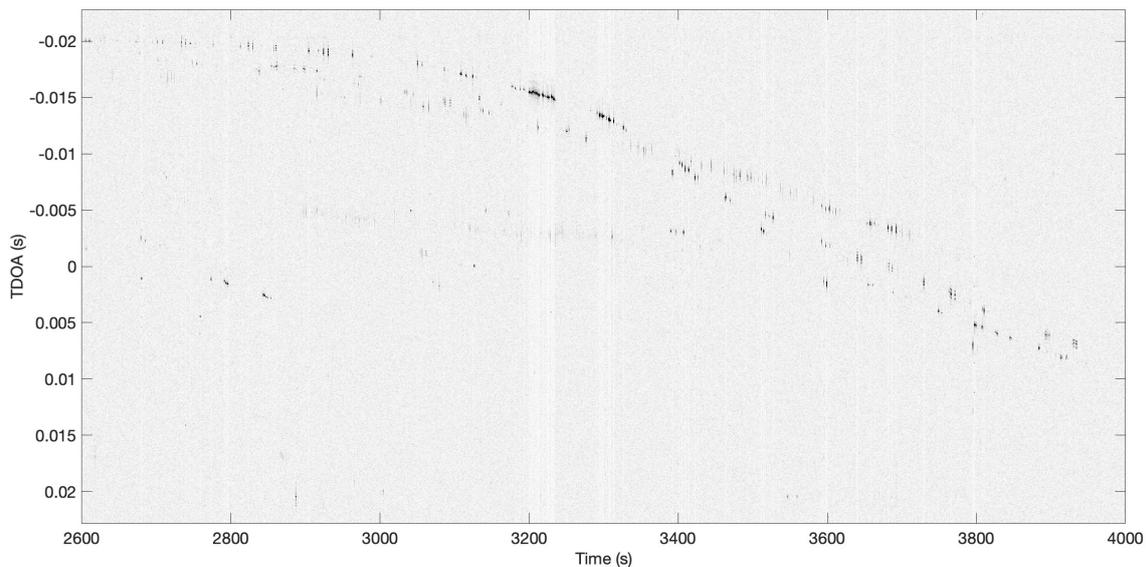


Figure S1.1. Click-based cross-correlogram. Negative Time-Difference-Of-Arrivals (TDOAs) correspond to the sources ahead of the array. TDOAs of 0 correspond to the sources at the beam of the array and positive TDOAs correspond to sources past the beam of the array.

REFERENCES

Gruden, P., Nosal, E.-M., and Oleson, E. (2021). Tracking time differences of arrivals of multiple sound sources in the presence of clutter and missed detections. *The Journal of the Acoustical Society of America*, 150(5):3399–3416.

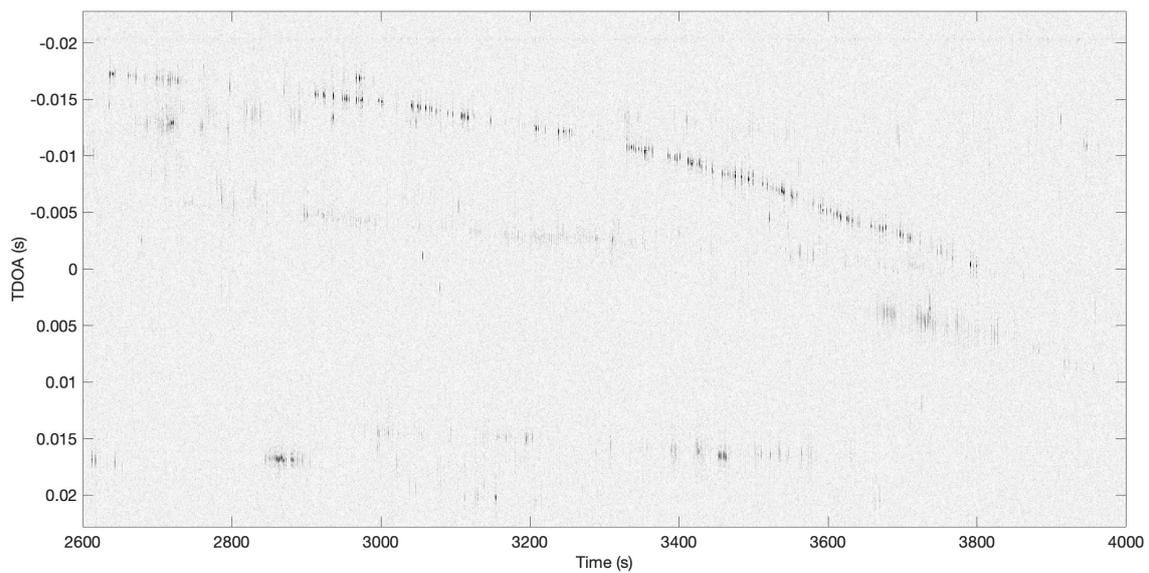


Figure S1.2. Whistle-based cross-correlogram. Negative Time-Difference-Of-Arrivals (TDOAs) correspond to the sources ahead of the array. TDOAs of 0 correspond to the sources at the beam of the array and positive TDOAs correspond to sources past the beam of the array.