**Motivations**
Constant augmentation of the volume of sound archives collected globally to monitor blue whales

- Species-specific stereotyped songs
- Noise in the same frequency band

**Objectives**
- Based on tonal signals, identify multiple concurrently calling species in sound recordings
- Reconstruct their songs independently

**Conclusion and Perspectives**
- Training overall precision 97.18% and recall 96.92%
- Separation and reconstruction of similar song such as P-call and Z-calls
- Robustness against seismic noise
- Application to an annotated test data set
- Definition of new scoring metrics relevant for transcription
- Systematic performance analysis
- Separation of songs of individuals from the same species

**Results**

**Reconstruction**
- **Goal:** Reconstruct independent songs
- **Strategy:** Use a TF binary mask per class
- **Tools:** iSTFT

**Classiﬁcation**
- **Goal:** Sort and identify tonals by similarity
- **Strategy:** Dimension reduction and clustering
- **Tools:** Principal component (PC) analysis and Gaussian mixture models

**Training performances**

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<th>ABW Unit A</th>
<th>ABW Unit C</th>
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<th>MPBW Unit 2 DS</th>
<th>P-call</th>
<th>Precision</th>
<th>Recall</th>
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**Training data**

- > 4000 annotated call units
- P-call: 12 %
- ABW Unit A: 15 %
- ABW Unit C: 14 %
- MPBW Unit 1 High: 18 %

**References**