Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Encoding of natural and artificial stimuli in the auditory midbrain[1] DOMINIKA LYZWA, Max Planck Institute for Dynamics and Self-Organization — How complex acoustic stimuli are encoded in the main center of convergence in the auditory midbrain is not clear. Here, the representation of neural spiking responses to natural and artificial sounds across this subcortical structure is investigated based on neurophysiological recordings from the mammalian midbrain. Neural and stimulus correlations of neuronal pairs are analyzed with respect to the neurons' distance, and responses to different natural communication sounds are discriminated. A model which includes linear and nonlinear neural response properties of this nucleus is presented and employed to predict temporal spiking responses to new sounds.

[1]Supported by BMBF Grant 01GQ0811.

Dominika Lyzwa
Max Planck Institute for Dynamics and Self-Organization

Date submitted: 12 Nov 2016 Electronic form version 1.4