

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Complex sound stimuli representation by small neural groups in subcortical auditory structure**<sup>1</sup> DOMINIKA LYZWA, Institute of Neuroscience, Newcastle University Institute for Nonlinear Dynamics, University of Goettingen — The neural representation of complex natural sound stimuli in higher auditory structures is not yet well understood. Based on neurophysiological recordings from the mammalian auditory midbrain, neural responses to complex (natural and also artificial) sounds are investigated and mapped with respect to temporal and spectral neural tuning in the subcortical structure. The mapping includes spiking activity of single neurons and small neural clusters and local field potential activity. A neural model is presented which captures the mapping and also the similarity of responses across the auditory structure, and is used to predict responses to novel sound.

<sup>1</sup>Financial support by Bernstein Focus Neural Technology Goettingen, grant number 01GQ0811

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Date submitted: 06 Nov 2015

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