Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Rapid Cellular Identification by Dynamic Electromechanical Response[1] VLADIMIR REUKOV, MAXIM NIKIFOROV, ALEXEI VERTEGEL, GARY THOMPSON, STEPHEN JESSE, SERGEI KALININ, OAK RIDGE NATIONAL LABORATORY TEAM, CLEMSON UNIVERSITY TEAM — Quick and reliable identification of individual prokaryotic organisms and cellular types is of utmost importance for various applications. A number of strategies for cellular identification are currently used to meet this challenge. All of the existing techniques require culturing bacteria prior to measurement, which increases the time needed for experimentation and analysis considerably. Here, we report on a method for rapid cellular identification and mapping using the detection of broadband electromechanical response. Electromechanical spectra from *M. Lysodeikticus* and *P. Fluorescens* deposited on PLL-coated mica were collected over wide frequency range. Principal component analysis of the spectra bundled with neural network analysis provides a robust algorithm for identification of the cellular organisms based on their electromechanical properties.

[1]This Research at Oak Ridge National Laboratory's Center for Nanophase Materials Sciences was sponsored by the Scientific User Facilities Division, Office of Basic Energy Sciences, U.S. Department of Energy.

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Date submitted: 29 Nov 2008 Electronic form version 1.4