

12:00 WE-O9

ACOUSTIC VIBRATIONS AND ELECTRON-LATTICE COUPLING IN  
SELF-ASSEMBLED SILVER NANOCOLUMNS

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Using femtosecond pump-probe spectroscopy, we have investigated the acoustic properties and electron-lattice interactions in self-assembled silver nanocolumns fabricated by alternate PLD. Our measurements showed an increase of the electron-lattice coupling in these systems due to confinement effects. Oscillations of the probe transmission revealed coherent excitation and detection of acoustic modes. Two vibration modes have been detected. The measured periods are in close agreement with theoretical predictions for the breathing and extensional modes of a nanorod.