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**Sonoluminescence of carbon nanotubes** OLEKSIY ROSLYAK, Theoretical division of Los Alamos National Laboratory, Los Alamos, New Mexico, 87545, PIRYATINSKI ANDREI, LANL — We report strong reduction in photoluminescence spectra of single wall semiconducting carbon nanotubes in presence of surface acoustical wave (SAW) in a piezoelectric substrate. In conventional Stark effect the excitonic oscillator strength is effectively transferred to the electron-hole manifold by reducing the exciton binding energy. Our formalism attributes the reduction to an effective damping of the electron velocity matrix elements at the Van Hove singularities of the SAW induced super-lattice. The effect manifests itself in absorption spectra by reducing the peaks amplitudes linearly with SAW amplitude in the GHz acoustical regime. Crossover to the Stark-like quadratic dependence on SAW amplitude occurs in low THz regime. We also report better quenching of higher order exciton absorption peaks as compared to the lowest optically active exciton.

Oleksiy Roslyak  
Theoretical division of Los Alamos National Laboratory,  
Los Alamos, New Mexico, 87545

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