session, ideally just before, the associated theory talk titled, Simulations of resonant Raman response in bundles of semiconductor carbon nanotubes.

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New Feature Observed in the Raman Resonance Excitation Profiles of $(6,5)$**-Enriched, Selectively Bundled SWCNTs** A. R. HIGHT WALKER, J. R. SIMPSON, National Institute of Standards and Technology, O. ROSLYAK, Fordham University, E. HAROZ, H. TELG, J. G. DUQUE, J. J. CROCHET, A. PIRYATINSKI, S. K. DOORN, Los Alamos National Lab — Understanding the photophysics of exciton behavior in single wall carbon nanotube (SWCNT) bundles remains important for opto-electronic device applications. We report resonance Raman spectroscopy (RRS) measurements on $(6,5)$-enriched SWCNTs, dispersed in aqueous solutions and separated using density gradient ultracentrifugation into fractions of increasing bundling. Near-IR to UV absorption spectroscopy shows a redshift and broadening of the main excitonic transitions with increasing bundling. A continuously tunable dye laser coupled to a triple-grating spectrometer affords measurement of Raman resonance excitation profiles (REPs) over a range of wavelengths covering the $(6,5)$-E_{22} range (505 to 585) nm. REPs of both the radial breathing mode (RBM) and G-band reveal a redshifting and broadening of the $(6,5)$ E_{22} transition energy with increasing bundling. Additionally, we observe an unexpected peak in the REP of bundled SWCNTs, which is shifted lower in energy than the main E_{22} and is anomalously narrow. We compare these observations to a theoretical model that examines the origin of this peak in relation to bundle polarization-enhanced exciton response.

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