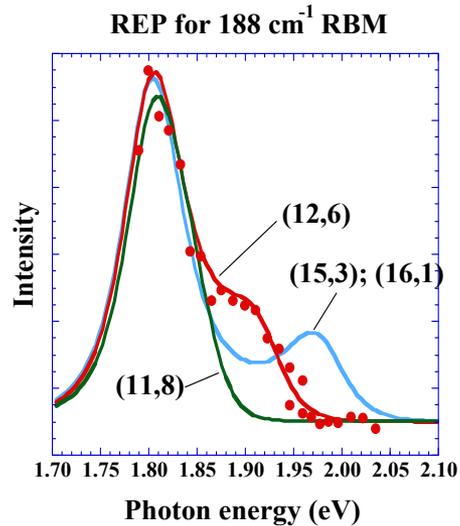
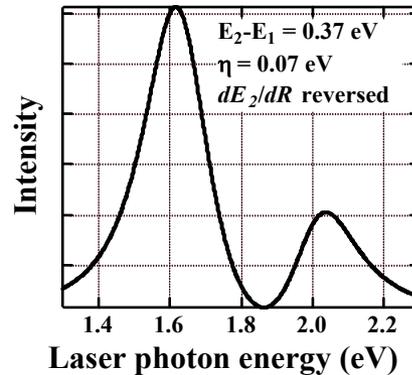
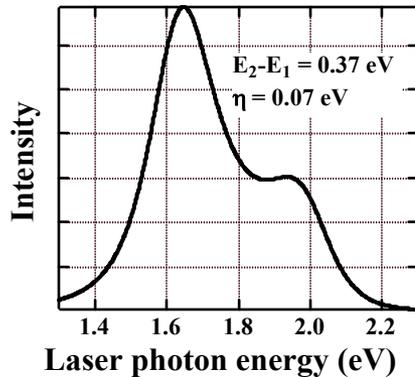


Electronic correlations in carbon nanotubes

José Menéndez, Arizona State University and Apparao M. Rao, Clemson University, DMR-0244290



Interferences between Raman amplitudes associated with different optical transitions have been theoretically predicted for the first time and observed experimentally. Such interferences can be used to identify the nanotube varieties present in a sample. The figures on the left show two possible outcomes depending on the sign of the electron-phonon interaction. The figure on the right shows experimental data consistent with calculations of the electron-phonon interaction by our European partners.

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Education and Outreach

- 2 graduate students have been supported at Arizona State and Clemson.
- J. Menéndez designed and taught a summer course entitled “Light and Matter”. This course is targeted to high-school teachers participating in the Masters in Natural Sciences program. From the teachers comments: “I have learned much and been pushed hard. The struggle was a surprise but well worth it!”