

Seminar

ifa Institutul de Fizică Atomică

New features of the Surface Enhanced Raman Scattering effect

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- ☛ **New features of the Surface Enhanced Raman Scattering (SERS) effect generated by plasmons assistance:**
 - similar to a stimulated Raman process in the Stokes branch and
 - similar to a single-beam Coherent anti-Stokes Raman Scattering (CARS) effect in the anti-Stokes branch.
- ☛ **New features of the Raman spectra of single-walled carbon nanotubes highly separated into semiconducting (99%) and metallic (98%) components.** Regardless of whether on or off-resonant optical excitation is used, only the semiconducting carbon nanotubes (99% pure) produce an abnormal anti-Stokes Raman emission, like a CARS effect. SERS studies demonstrate that only semiconducting nanotubes are sensitive to changes in the polarization of the excitation light.

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