MacDiarmid Access Grid Seminar

Surface-enhanced Raman Scattering and Localized Plasmon Excitations Using Self-assembled Gold Nanoparticles

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Abstract

Localized surface plasmon resonance excited in noble metal particles are considered as the origin of huge enhancement in Raman scattering of an analyte adsorbed on or nearby the particle-surface. Hence the variations in plasmon excitation affect the Raman excitation probability as well. Colloidal nanoparticles-based gold nano-assembly in different dimensions (0D, 1D and 2D) was investigated by near-field and far-field experimental setup. Near-field observations gave the access to confirm the direct evidence of hot-site mechanism correlating surface-enhanced Raman scattering and two-photon induced photoluminescence, whereas several new insights, such as, variations in plasmon excitations, preferential confinements near the edge, etc. were observed by far-field experiments. The presentation will cover some typical examples in this context.

Venues

Victoria University of Wellington, Room RB 106
University of Canterbury, Level 1 Psychology Building
University of Otago, Teaching Facilities, Information Services Building
University of Auckland, 23 Symonds St, Rm 411, Chemistry Building 301

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