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20. Abstract

This project has continued the experimental and theoretical investigation of surface enhanced Raman scattering of molecules adsorbed on silver colloids. It includes the combined enhancement of normal and resonance Raman scattering as well as the observation of each of these effect separately on the same substrate. In addition there were studies of chromate, molybdate and tungstate on colloidal silver. Theoretical studies included the effect on enhancement of adsorption within cavities rather than on convex roughenings, the enhancement of light emission from tunnel junctions and the comparison of SERS calculations with calculation of surface-averaged electromagnetic intensities. In addition, the effect of variation of values of the optical constants on the values of SERS was studied.

Keywords →

List of Publications

1. O. Siiman, R. Smith, C. Blatchford and M. Kerker, Combined surface-enhanced and surface-resonance Raman spectra of dabsyl aspartate adsorbed on a silver electrode, *Langmuir* 1, 90-96 (1985).
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Scientific Personnel Supported by this Project and Degrees Awarded

Milton Kerker, Principal Investigator
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 Hannah Feilchenfeld, Visiting Professor
 Dau-Sing Wang, Consultant

Adam Lepp, M.S. thesis "A system for studying surface resonance Raman phenomena" (1985)

Diane Curley, M.S. thesis, "Conformation and orientation of 2,4-dinitrophenyl amino acids (DNP-haptens) on colloidal silver" (1987)



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