



Monday, February 25, 2019, 12:00 pm

Seaver Science Library, Room 150

SSC Auditorium next to the library

Professor Wei Xiong

Department of Chemistry and Biochemistry

University of California San Diego

Molecular Polaritons – Janus Particles of Photon and Molecules

Molecular vibrational polaritons, half-light, half-matter hybrid quasiparticles, are studied using ultrafast, coherent 2D IR spectroscopy. Molecular vibrational-polaritons are anticipated to produce new opportunities in the photonic and molecular phenomena. Many of these developments hinge on a fundamental understanding of physical properties of molecular vibrational polaritons. Using 2D IR spectroscopy to study vibrational-polaritons, we obtained results that challenge and advance both polariton and spectroscopy fields. These results invoke new developments in theory for the spectroscopy, discover observation of new nonlinear optical effects and unexpected responses from hidden dark states. We expect these results to have significant implications in novel infrared photonic devices, lasing, molecular quantum simulation, as well as new chemistry by tailoring potential energy landscapes.

Hosted by Professor Alex Benderskii

The scientific community is invited

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