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APS March Meeting 2023

Las Vegas, Nevada (March 5-10)

Virtual (March 20-22); Time Zone: Pacific Time

Session G00: Poster Session I (2pm-5pm PST)

2:00 PM, Tuesday, March 7, 2023

Room: Exhibit Hall (Forum Ballroom)

Sponsoring Unit: APS

Abstract: G00.00388 : Frequency-comb-based multidimensional coherent spectroscopy of systems with long-lived excited states*

← Abstract →

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Frequency-comb-based multidimensional coherent spectroscopy is a powerful optical method for studying nonlinear optical properties of samples with narrow resonances. It enables the measurement of multidimensional coherent spectra rapidly and with high spectral resolution. However, for some samples (especially cold atoms and molecules) the dephasing times are longer than the repetition periods of the excitation lasers and hence the nonlinear signals generated in the sample by the subsequent laser pulses will interfere with each other. Here we investigate this behavior and show its effect on multidimensional coherent spectra by solving the optical Bloch equations.

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