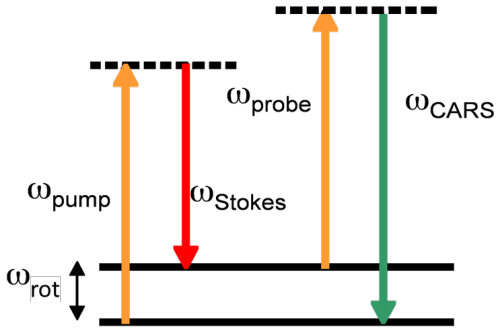
Physics Department Seminar

11 am May 3, 2024 Science Building Room 126

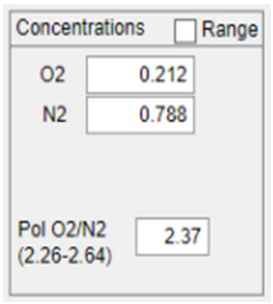
A Graphical User Interface (GUI) for Flexible CARS Library Generation

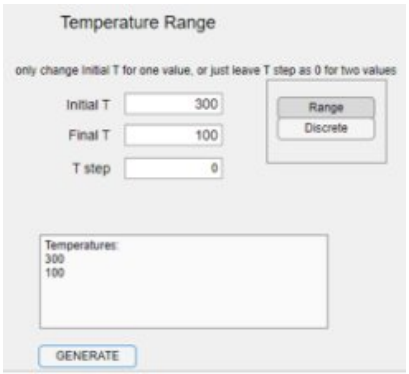
Michael Hart

California State University, Chico



Four Wave Energy Diagram





Spectral library generation is a technique to produce libraries of theoretical spectra which are used to analyze experimental spectra gathered by femtosecond/picosecond Coherent anti-Stokes Raman scattering (fs/ps CARS). Chen et al. [1] built a model to generate the theoretical spectra based on theory outlined in [2]. However, the model wasn't user-friendly because it was dispersed among many files and changing modeling parameters was not intuitive. We consolidated the existing code into a single program with a graphical user interface (GUI). Here we present the experimental technique, the underlying theory, and the GUI.