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Alireza Heidari *

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Mini Review

Dynamical Symmetry of Vibronic Transitions in Polyatomic Molecules Using Multidimensional Franck-Condon Integrals and Duschinsky Mixing Effects

Alireza Heidari [1,2,3,4, *]

[1] Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA

[2] BioSpectroscopy Core Research Laboratory (BCRL), California South University, 14731 Comet St. Irvine, CA 92604, USA

[3] Cancer Research Institute (CRI), California South University, 14731 Comet St. Irvine, CA 92604, USA

[4] American International Standards Institute (AISI), Irvine, CA 3800, USA

***Corresponding Author:** Alireza Heidari, American International Standards Institute (AISI), Irvine, CA 3800, USA

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Now not very lengthy ago, the second one-order sumdash frequency era (SFG) has grown to be a powerful surface - spectroscopic manner of doing matters. on this paper we gift a molecular rationalization (of why something works or happens the manner it does) for SFG. To in an organized manner deal with this system, we've got classified SFG into the rich sound/important first-rate-wealthy sound/vital best case, rich sound/vital quality-off-wealthy sound/critical best case, off-rich sound/essential pleasant-wealthy sound/important exceptional case and off-rich sound/important excellent-off-rich sound/critical quality case. amongst those cases we may have IR-UV SFG and UV-UV SFG. some of these SFG's are pronounced in this paper. In each SFG case, we've got shown a way to calculate the energy (or strength) and band-form function. The electronic (related to ghosts or the colors of the rainbow) line shape of a (dirt, dust, and so on.) molecule in a collection is calculated. each a stiff/no longer bendy (strong-like) and a non-stiff/no longer bendy (small drop-like) model for the institution are carefully thought approximately/believed and as compared. The spectrum is calculated the use of the (related to ghosts or the colors of the rainbow) density which is related to the mathematical courting-related function of the time-structured energy hole between the two electronic states. Our calculations (display or prove) how the records (associated with/looking at/thinking about) individual eigenstates is misplaced below the broadened line shape envelope in big corporations. The digital (intellectual concentration/selecting up of a liquid) line shape of a polyatomic molecule with harmonic saved strength surfaces is calculated using the time-mathematical relationship-associated function (strictly following longstanding rules). its miles assumed that the (traditional/ commonly and everyday/ healthy) coordinate of electronic states go through a displacement as well as a rotation (the Duschinsky alternate) upon digital excitation. the line shape is also calculated distractively the usage of the cumulant (act of something getting larger, wider, and so forth.) that is related to the mathematical relationship-associated feature of the time-established power gap between electronic states [1-114].

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