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Direct Signatures of Light-Induced Conical Intersections on the Field- Dressed Spectrum of Na_2. GBOR JZSEF HALSZ, University of Debrecen, TAMS SZIDAROVSZKY, ATTILA G. CSSZR, Etvs Lorand University, LORENZ S. CEDERBAUM, University of Heidelberg, GNES VIBK, University of Debrecen — Rovibronic spectra of the field-dressed homonuclear diatomic Na_2 molecule are investigated to identify direct signatures of the light-induced conical intersection (LICI) on the spectrum. The theoretical framework formulated allows the computation of the (1) field-dressed rovibronic states induced by a medium-intensity continuous-wave laser light and the (2) transition amplitudes between these field-dressed states with respect to an additional weak probe pulse. The field-dressed spectrum features absorption peaks resembling the field-free spectrum as well as stimulated emission peaks corresponding to transitions not visible in the field-free case. By investigating the dependence of the field- dressed spectra on the dressing-field wavelength, in both full- and reduced-dimensional simulations, direct signatures of the LICI can be identified. These signatures include (1) the appearance of new peaks and the splitting of peaks for both absorption and stimulated emission and (2) the manifestation of an intensity-borrowing effect in the field-dressed spectrum.

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