SATURATION TRANSFER STUDIES ON DOORWAY STATES FOR CH_2 INTERSYSTEM CROSSING

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Double-resonance transient photobleaching kinetics of singlet and mixed singlet-triplet eigenstates of CH_2 to characterize the closely related processes of rotational energy transfer and collision induced intersystem crossing in methylene will be reported. Qualitative features of the state-to-state rotational energy transfer matrix are revealed. Polarization dependence (parallel and perpendicular) of saturation recovery is observed. Limited by the detection sensitivity, it was not possible to identify polarization dependence of saturation transfer. Selective bleaching of individual eigenstates of mixed state (doorway) pairs shows very efficient collisional interconversion within the mixed-state pair.

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