VARIATION OF VECTOR PROPERTIES OF DIATOMIC PHOTODISSOCIATION NEAR COMPLEX RESONANCES

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Vector properties of diatomic photodissociation processes to atomic fine structure states are theoretically examined near complex resonances. OH molecule is employed as a model system. Both the product angular distributions and the orientation and alignment show considerable variations near complex resonances as a result of quantum interference between two indistinguishable dissociation pathways (one direct and the other indirect). It angular control of photofragments. On the other hand, importance of the strong variations of orientation and alignment near complex resonance is discussed in the spirit of production of polarized (that is, magnetic sublevel-selected) photofragments and vector correlations in photodissociation processes.