

Multichannel Quantum Defect Study of the Phase Lag in the Coherent Control of HI

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Abstract. The phase lag between the ionization and dissociation products of the HI molecule obtained by one- and three-photon excitation has been calculated using the unified multichannel quantum theory (MQDT) in the region of the $5d\delta$ resonance and compared to experiment [1]. The method is extended to take into account the rotation and applied to the $5s\sigma$ resonance for both HI and DI [2]. The results show that the phase lag presents a maximum in the vicinity of the resonance in disagreement with a recent interpretation [3].

References

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