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The Vibrational Dynamics of 3D HOCl Above Dissociation[1] YIDER LIN, LINDA REICHL, University of Texas at Austin, CHRISTOF JUNG, Universidad Nacional Autonoma de Mexico — We have analyzed the vibrational dynamics of HOCl above dissociation using a 3D energy surface which governs the vibrational dynamics of HOCl above dissociation. The dynamics is dominated by an invariant manifold which is transversally unstable for small spacing between Cl and HO complex, and stable for large spacing. Above dissociation, the InM separates two mirror image periodic orbits, embedded in a large chaotic sea, that can hold a large number of quantum states. These periodic orbits have the capability of forming significant quasibound states of the molecule above dissociation.

[1]Welch Foundation

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