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Title: Autodetachment in H<sub>2</sub><sup>-</sup> : A Franck-Condon Approach

Authors: Teke, Nakul Kushabhau (/jspui/browse?type=author&value=Teke%2C+Nakul+Kushabhau)

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Abstract: Effective potentials are calculated for different values of J, the rotational angular momentum quantum number, from accurate potential energy curves of the X<sup>2</sup>E<sup>+</sup>u state of the molecular hydrogen anion (H<sub>2</sub><sup>-</sup>). The bound states of these effective potentials are determined numerically. Autodetachment in H<sub>2</sub><sup>-</sup> is studied from a Franck-Condon perspective. The states with maximum probability of transition from H<sub>2</sub><sup>-</sup> to H<sub>2</sub> are identified. The photodetachment cross section of H<sub>2</sub><sup>-</sup> is calculated as a function of photon energy.

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