STARK EFFECT MEASUREMENTS ON THE H_2SO_4-H_2O COMPLEX

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Sulfuric acid water mixtures provide important model systems for understanding rates of binary homogeneous nucleation. An understanding of these rates, in turn, is critical to fully elucidating the role of sulfuric acid aerosols in the atmosphere. The problem is made difficult, however, because of the strong tendency of sulfuric acid to form gas phase hydrates, and thus accurate information about H_2SO_4/H_2O clusters is of considerable interest. In this work, Stark effect measurements have been performed on three rotational transitions of the H_2SO_4-H_2O complex. The resulting dipole moment components will be discussed in terms of the known structure of the system.