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## An Investigation of the Formation and Excitation of the Mercury Hydride Molecule through Resonance Radiation

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THE LIMITATIONS OF PRESENT COMPUTATIVE  
METHODS OF STUDYING LIQUID STRUCTURE

GEORGE A. BOYD

The inadequacy of the approximate method of x-ray diffraction intensity computation in the case of liquids is illustrated by computations relative to n-paraffins. Warren apparently proved, by using Zernike and Prins theory, that the structure of the liquids is hexagonal parallel packing. These computations have been repeated and extended to larger scattering angles. Similar calculations were made for the parallel packing. Conclusive proof for either array was not found. Preference, however, due to peak position, should be given to the former. The work emphasizes the need for a better theoretical approach to the problem of liquid structure in explaining the scattering of x-rays.

DEPARTMENT OF PHYSICS,  
STATE UNIVERSITY OF IOWA,  
IOWA CITY, IOWA.

AN INVESTIGATION OF THE FORMATION AND EX-  
CITATION OF THE MERCURY HYDRIDE MOLE-  
CULE THROUGH RESONANCE RADIATION

LEONARD O. OLSEN

A weak excitation by collisions of several of the HgH bands belonging to the electronic system  ${}^2\pi \rightarrow {}^2\Sigma$  was detected. It was found that HgH was formed in the  ${}^2\pi_{\frac{1}{2}}$  and  ${}^2\pi_{\frac{3}{2}}$  (excited) states through a collision process involving Hg  $6^3P$  and the  $H_2$  molecule, one Hg  $6^3P$  atom dissociating the  $H_2$  molecule and a second Hg  $6^3$  atom uniting with an H atom to form the excited HgH molecule.

DEPARTMENT OF PHYSICS,  
STATE UNIVERSITY OF IOWA,  
IOWA CITY, IOWA.

AN UNUSUAL APPEARANCE OF THE CYANOGEN  
BANDS

LEONARD O. OLSEN

A unique formation and excitation of the CN molecule occurred in the resonance tube. (Observed in connection with the investiga-