

## FTMW SPECTROSCOPY OF AISH AND AISD

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We have observed AISH and AISD for the first time using the technique of Fourier transform microwave spectroscopy. AISH (AISD) was produced in supersonic free jet expansions by reaction of H<sub>2</sub>S (D<sub>2</sub>S) with laser ablated Al atoms. The spectral search was guided by an *ab initio* computational prediction performed prior to the experiments. The lowest frequency rotational transition,  $1_{01} - 0_{00}$ , was measured and the hyperfine structure due to the nuclear spin of <sup>27</sup>Al was analyzed. By comparing the obtained rotational constant,  $\frac{1}{2}(B+C)$ , with the computational prediction, it was concluded that AISH has a bent structure with a bond angle close to 90°. Using the nuclear electric quadrupole and nuclear spin-rotation coupling constants obtained, the electronic structure of AISH was investigated.

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