HYPERFINE SPLITTING AND ROTATIONAL ANALYSIS OF THE DIATOMIC MOLECULE ZINC MONOSULFIDE, ZnS.[a]

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^{67}Zn hyperfine structure has been observed in the diatomic molecule ZnS in the microwave (6-26 GHz) region. The molecule was synthesized by the use of a newly constructed laser ablation source based on the design of Walker and Gerry.[b] Previous rotational studies of this molecule have been performed in the millimeter-wave region (370-471 GHz range).[c] Rotational analyses, including the nuclear electric quadrupole coupling constant, will be discussed and compared with the literature.

[a]Support from CHE-1011214

[b]K. A. Walker and M. C. L. Gerry, *J. Mol. Spectrosc.*, **182** (1997), 178

[c]L. N. Zack and L. M. Ziurys, *J. Mol. Spectrosc.*, **257** (2009), 213-216