

Structure Data of Free Polyatomic Molecules

69 LIF	BS₂	Boron disulfide		D_{∞h}
				S=B=S
	State	$\tilde{X}^2\Pi_g$	$\tilde{A}^2\Pi_u$	
	Energy [eV]	0.00	1.716	
	$r_0(\text{B=S})$ [Å]	1.6648(4)	1.7127(5)	

BS₂ molecules were produced in a pulsed electric discharge jet using a precursor mixture of BCl₃ and CS₂ in argon. The spectrum was recorded in the region 760...530 nm by laser-induced fluorescence. Rotational analysis of the 0-0 band permitted the determination of the bond lengths in the ground and excited states.

He, S-G., Evans, C.J., Clouthier, D.J.: J. Chem. Phys. **119** (2003) 2047.