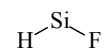


175 **FHSi** **Silicon fluoride hydride** **C_s**
 LIF Monofluorosilylene



State	\tilde{X}^1A'	\tilde{A}^1A''
Energy [eV]	0.00	2.884
$r_e(\text{Si-H})$ [Å]	1.528(5)	1.526(14)
$r_e(\text{Si-F})$ [Å]	1.603(3)	1.597(3)
$\theta_e(\text{H-Si-F})$ [deg]	96.9(5)	115.0(6)

HSiF and DSiF were produced in a pulsed discharge jet using HSiF₃ and DSiF₃ diluted in argon as precursors. The $\tilde{A}^1A'' - \tilde{X}^1A'$ spectra were studied by laser-induced fluorescence. Since bands involving all the ground and excited state fundamentals in HSiF and DSiF were observed, harmonic force fields for both states were determined and used to obtain the equilibrium structural parameters.

Harper, W.W., Hostutler, D.A., Clouthier, D.J.: J. Chem. Phys. **106** (1997) 4367.

See also: Hostutler, D.A., Clouthier, D.J., Judge, R.H.: J. Chem. Phys. **114** (2001) 10728.

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