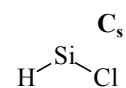


128
LIF

CHSi

Silicon chloride hydride
Monochlorosilylene

State	\tilde{X}^1A'	\tilde{A}^1A''
Energy [eV]	0.00	2.569
$r_e(\text{Si-H})$ [Å]	1.525(5)	1.532(8)
$r_e(\text{Si-Cl})$ [Å]	2.067(3)	2.040(3)
$\theta_e(\text{H-Si-Cl})$ [deg]	96.9(5)	118.1(5)

HSiCl and DSiCl were produced in a pulsed discharge jet using HSiCl₃ and DSiCl₃ 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 HSiCl and DSiCl were observed, harmonic force fields for both states were determined and used to obtain the equilibrium structural parameters.

Harper, W.W., Clouthier, D.J.: J. Chem. Phys. **106** (1997) 9461.

[II/25A\(2, 283\)](#)