

Structure Data of Free Polyatomic Molecules

78 LIF	CHGe	Germanium methylidyne		$C_{\infty v}$ H-C≡Ge·
		Methylidynegermyl		

State	$\tilde{X}^2\Pi_i$	$\tilde{A}^2\Sigma^+$
Energy [eV]	0.00	1.724
$r_0(\text{Ge}\equiv\text{C})$ [Å]	1.77579(21)	1.67366(8)
$r_0(\text{C}-\text{H})$ [Å]	1.0673(12)	1.0589(5)

GeCH and GeCD were produced in a pulsed discharge jet using tetramethylgermane and tetramethylgermane- d_{12} as precursors. The $\tilde{A}^2\Sigma^+ - \tilde{X}^2\Pi_i$ band systems were studied by laser-induced fluorescence. Zero-point structures for the two electronic states were deduced from the rotational constants.

Smith, T.C., Li, H., Clouthier, D.J., Kingston, C.T., Merer, A.J.: J. Chem. Phys. **112** (2000) 8417.