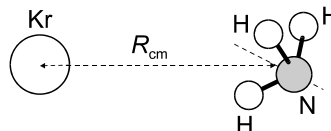


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MW**H₃KrN****Ammonia – krypton (1/1)**
(weakly bound complex)**C_{3v}**
(effective symmetry class)
(large-amplitude motion)
NH₃ · Kr

Isotopic species ^{a)}	$r_0(R_{\text{cm}})$ in $\Sigma 0_{0s}$ [\AA] ^{b) c)}	$r_0(R_{\text{cm}})$ in $\Sigma 0_{0a}$ [\AA] ^{b) c)}
Kr · NH ₃		3.9220(30)
Kr · ¹⁵ NH ₃		3.9194(30)
Kr · ND ₃	3.9076(30)	3.9076(30)
Kr · ND ₂ H	3.9144(30)	3.9143(30)
Kr · NDH ₂	3.9204(30)	3.9200(30)



The isotopomers studied included those of NH₃, ¹⁵NH₃, ND₃, NHD₂ and NH₂D with five most abundant isotopes of Kr. Tunneling splittings due to the inversion of the ammonia subunit within the ground state of the complex were observed for all three deuterium containing isotopomers. In the NH₃ and ¹⁵NH₃ isotopomers, one of the tunneling states has a spin statistical weight of zero and the splitting can therefore not be measured in these species. The intermolecular stretching frequency and force constant are 35.0 cm⁻¹ and 1.02 N m⁻¹, respectively, for ⁸⁴Kr · NH₃.

^{a)} The results only on ⁸⁴Kr containing species are listed.

^{b)} Uncertainties were not estimated in the original paper.

^{c)} Σ means $K = 0$, where K denotes the quantum number of the projection onto the intermolecular axis of the total angular momentum and the suffix 0s or 0a represents the rotational state of NH₃.

van Wijngaarden, J., Jäger, W.: Mol. Phys. **99** (2001) 1215.

See also: Melnik, D.G., Miller, T.A., De Lucia, F.C.: J. Mol. Spectrosc. **214** (2002) 202.