Ne - OH　　*P*=1/2

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Abstract

So far, pure rotational spectra of Rg-OH (Rg:Ne, Ar, Kr) have been studied by Fourier transform microwave spectroscopy. In the present study, vibrational transitions (*P*=1/2←3/2) of Ne-OH were observed by a double-resonance technique using a Fourier transform microwave spectrometer. A three dimensional intermolecular energy surface was determined.

(FTMW)

OH　　Rg-OH

(IPS)　　[1]

Kr-OH　Ar-OH　Ne-OH　　Ne-OH

Ar-OH　Kr-O　　*P*=1/2←3/2　　Ne-OH

P=1/2

Ne-OH　　FTMW-mmW

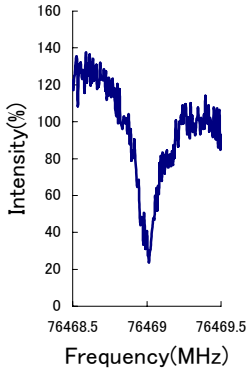
Ne　　H_2O_2/H_2O

1.5kV　　(8atm)

Ne-OH

FTMW　　40GHz

50GHz



FTMW-mmW

( )

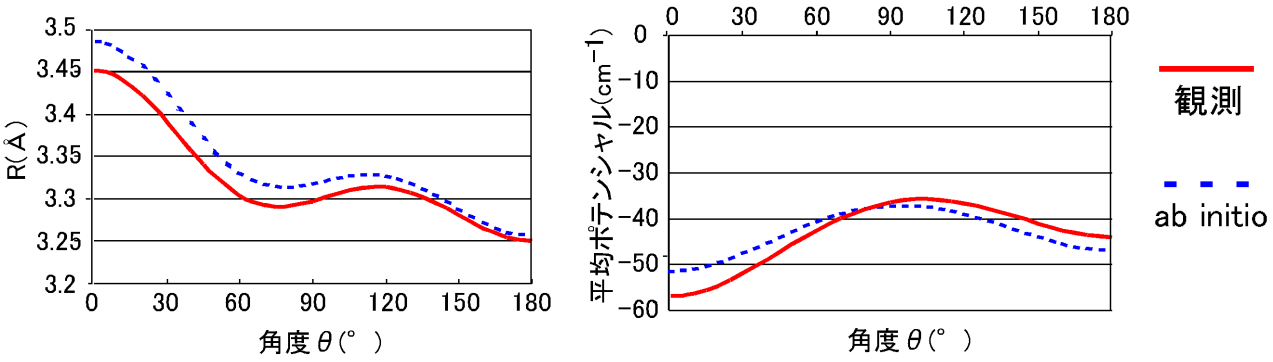
Ne-OH P=1/2←3/2 {(J=3/2←5/2,F=1←2), (J=3/2←5/2,F=2←3), (J=5/2←7/2,F=2←3), (J=5/2←7/2,F=3←4), (J=7/2←9/2,F=3←4), (J=7/2←9/2,F=4←5)} Ne-OH Ne-OD

3

35kHz IPS

IPS r OH R

ab initio



R

Ne-OH Ar Kr IPS

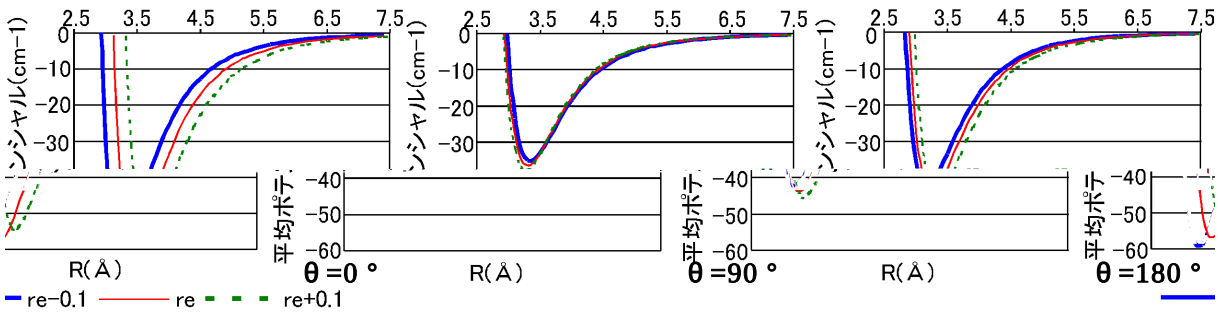
Ne-OH OH

Ne-OH r ( ) Ne-OH θ = 0 ° 30 ° $r = r_e$ 0.1 θ = 60 ° $r = r_e + 0.1$

Ar Kr

FTMW-mmW

Ne-OD



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[1] 1C07 (2005)