

THE ROTATIONAL SPECTRA OF OH DOUBLET Π ISOTOPOLOGUES

BRIAN J. DROUIN, *Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109-8099.*

Two new sources of THz radiation have enabled in depth studies of the rest frequencies for rarer isotopologues of the hydroxyl radical (OH). These sources operate from 1.4-2.0 THz and 2.47-2.75 THz, and span the fundamental transitions for OH $^2\Pi_{3/2}$ and $^2\Pi_{1/2}$ and its rare oxygen isotopologues. Transitions for OD and several $v = 1$ states are also accessible. The new measurements add significantly to the wealth of high-resolution measurements for the OH radical. Analyses using combined data sets are underway, with the goal of providing a full isotope-independent Dunham analysis. Measurements include the rare ^{17}OH and ^{17}OD isotopologues, we will present the magnetic and electric quadrupole hyperfine parameters for ^{17}O and compare these to values determined via LMR, EPR and theory.