NEW MEASUREMENTS OF THE PROTON MIGRATION TUNNELING SPLITTING IN THE ROTATIONAL SPECTRUM OF $C_2H_3^+$

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New measurements have been carried out in the rotational spectrum of $C_2H_3^+$ using a negative glow discharge. An improved resolution made it possible to determine the value of the tunneling splitting for one more line than in previous studies[a b]. Microwave data have been analyzed with a formalism based on the Internal-Axis-Method-like approach set-up to treat the water dimer[c]. The three experimentally resolved splittings were predicted within the experimental resolution around the measured values. Calculations also provided us with more information about the tunneling path along which the three protons migrate[d].

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