184. 标 题 : PRECISE THz MEASUREMENTS OF HCO+, N2H+, AND CF+ FOR ASTROPHYSICAL OBSERVATIONS
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摘要: Ground-state rotational spectra of HCO+, N2H+, and CF+ (both C-12- and C-13-containing isotopologues) have been recorded in the 1.0-1.6 THz frequency range. Present measurements allowed us to improve the spectroscopic parameters, which in turn enabled the prediction of rotational transitions up to 2.0-2.5 THz with good accuracy. We therefore consider the present results to be of great value in view of the extended spectral coverage made available by the Herschel Space Observatory, Stratospheric Observatory for Infrared Astronomy, and the Atacama Large Millimeter Array. Furthermore, we re- investigated the ground-state rotational spectrum of N2H+ in the 93-750 GHz frequency range, thus addressing the open issue of the frequency of the J = 1 <- 0 transition as well as resolving the hyperfine structure of the J = 1 <- J transitions with J = 1, 2, and 3 for the first time.
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