SUB-DOPPLER AND FTMW SPECTROSCOPY OF HC_3N ISOTOPOLOGUES

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We report results of precise sub-Doppler spectroscopy of HC_3N, $H^{13}CCCN$, $HC^{13}CCN$, $HCC^{13}CN$ and $HCCC^{15}N$ at $45-510$ GHz with Lamb-dip spectrometer of IAP RAS. Hf structure of rotational transitions of all above species below 27 GHz as well as inversion transitions of NH_3(1,1) and (2,2) were measured using FTMW spectrometer of University of Hannover. New comparison of HC_3N and NH_3 laboratory frequencies with radio astronomical observations of dark clouds[a,b] shows an upper limit of m_e/m_p variation in our Galaxy as $\leq 3 \cdot 10^{-9}$.

[a] S. A. Levshakov, A. V. Lapinov, C. Henkel et al. *Astron. Astrophys.* **524**, A32, 2010.
[b] S. A. Levshakov, P. Molaro, A. V. Lapinov et al. *Astron. Astrophys.* **512**, A44, 2010.