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Title **A Search For $^{15}\text{NH}_2$ Lines In Comet C/2002 T7 (LINEAR)**

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Abstract The determination of isotopic ratios in comets is of primary importance for a good understanding of their origin and the formation of solar system. The $^{14}\text{N}/^{15}\text{N}$ ratio is an interesting tracer, because of its variability among various solar system bodies. So far it has only been measured in bright comets through optical observations of the CN radical (Arpigny et al., 2003; Manfroid et al., 2009) and millimeter observations of HCN (Bockelée-Morvan et al., 2005, 2008). The measurements give for both species the same non-terrestrial isotopic composition ($^{14}\text{N}/^{15}\text{N} \approx 150$ in comets versus 272 in the Earth atmosphere), but HCN and CN are minor species. In order to get a determination of this ratio in another molecule we have searched for $^{15}\text{NH}_2$ lines in a high-resolution and high signal-to-noise ratio spectrum of comet C/2002 T7 (LINEAR) obtained with the UVES spectrometer at the VLT ESO 8-m telescope (Hutsemékers et al., 2008). This work is based on a new laboratory experiment conducted with the AILES beamline spectrometer at synchrotron SOLEIL to determine the $^{15}\text{NH}_2$ wavelengths by Fourier transform spectroscopy. We will present the first results obtained from these data, which have allowed to search for the first time $^{15}\text{NH}_2$ emission lines in a comet.
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