THE LABORATORY ROTATIONAL SPECTRUM OF ISO-PROPYL CYANIDE AND AN ASTRONOMICAL SEARCH IN SAGITTARIUS B2(N)

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We have carried out a molecular line survey of Sagittarius B2(N) in the 3 mm region with selected recordings at 2 and 1.3 mm to probe the chemical complexity in massive star-forming regions. Noteworthy results include the detection of aminoacetonitrile,[a] a possible precursor of the aminoacid glycine, the detection of ^{13}C isotopologs of vinyl cyanide,[b] and the detection of ethyl formate as well as $normal$-propyl cyanide.[c] The heavy atoms in the latter molecule form a chain. An isomer with a branched structure, iso-propyl cyanide, also exists, but its rotational spectrum has only been recorded in few transitions up to 40 GHz.[de] Therefore, laboratory measurements were extended. The molecule is rather asymmetric ($\kappa = -0.5766$) with a strong a-dipole moment component of 4.05 (2) D and a still sizable c-component of 1.4 (2) D.[e] Measurements in Köln were carried out in selected regions between 40 and 600 GHz. Since the c-type transitions appeared to be weaker than predicted additional Stark (and also zero-field) measurements have been carried out in Hannover between 6 and 20 GHz. We will present results of these laboratory spectroscopic investigations as well as the outcome of a search for the molecule in our Sgr B2(N) line survey.

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[b] H. S. P. Müller, A. Belloche, K. M. Menten, C. Comito, P. Schilke, *J. Mol. Spectrosc.* **251** (2008) 319.

[c] A. Belloche, R. T. Garrod, H. S. P. Müller, K. M. Menten, C. Comito, P. Schilke, *Astron. Astrophys.* (2009), accepted.

[d] G. E. Herberich, *Z. Naturforsch.* **22a** (1967) 543.

[e] J. R. Durig, Y. S. Li, *J. Mol. Struct.* **21** (1974) 289.