Aminoacetonitrile (NH$_2$CH$_2$CN) is a potential precursor of the simplest amino acid, glycine and was detected toward SgrB2(N). It is expected that the strongest transitions will be found in the terahertz region so that we have extended measurements up to 1.3 THz. This study gave an accurate prediction of aminoacetonitrile up to 2 THz which is useful for astronomically search. This molecule has a few low-lying vibrational excited states and the pure rotational transitions in these vibrational excited states are expected to be found. We found a series of transitions with intensity of about 30%. Eighty-eight spectral lines including both $a$-type and $b$-type transitions were recorded in the frequency region of 400 - 450 GHz, and centrifugal distortion constants up to the sextic term were determined. Perturbation was recognized. We will report the current status of the analysis.

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