3-D SUBMILLIMETER SPECTROSCOPY OF ASTRONOMICAL 'WEEDS' – LATEST RESULTS

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We have previously reported on an experimental spectroscopic approach that makes possible the calculation of lower state energy levels and transition strengths without the need for spectral assignment. This approach provides results in the standard astronomical catalog form (frequency, line strength, lower state energy) as well as experimental temperature dependent spectra. Here we report our latest spectroscopic results and analyses for a number of astronomical weeds in the 575–645 GHz and 210–270 GHz spectral ranges. The latest improvements of the spectrometer result in more accurate power calibration of the experimental spectra. Additionally we have developed new approaches to data analysis which allow us to process this data in timely fashion providing rapid availability for the astronomical community.