ANALYSIS OF THE 3MM SPECTRUM OF ORION-KL FROM THE BIMA ARRAY

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We present our initial results on the analysis of 979 (620 identified and 359 unidentified) spectral lines from the Orion Hot Core and 790 (518 identified and 272 unidentified) spectral lines from the Orion Compact Ridge taken with the Berkeley-Illinois-Maryland-Association (BIMA) array. The identified spectral features are from the ground state and vibrationally excited states of 60 molecular species and isotopomers including the first detection of vibrationally excited acetone ($(CH_3)_2CO$) in the interstellar medium[a]. The complete analysis focuses on the spatial distribution, potential formation mechanisms, temperatures and column densities of all the detected species. We will present the results of the analysis on selected large molecular species including acetone, vinyl cyanide (C_2H_3CN), ethyl cyanide (C_2H_5CN), and ethanol (C_2H_5OH).

[a]Friedel et al. 2005, ApJL, 632, L95