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Investigating Molecular Gas Properties of Class 0 Source CARMA-7[1] MAKOTO JOHNSTONE, Middlebury College — Previous observations of the low mass Class 0 protostar, CARMA-7, in the Serpens South cluster region detected outflow ejection events traced by ^{12}CO J=21. However, little is known about the molecular abundances and morphologies of molecular lines other than carbon monoxide isotopologues. We present follow-up observations of 9 molecular emission lines near CARMA-7 using the Atacama Large Millimeter/sub-millimeter Array. We confirm the presence of a bipolar outflow extending in the north-south direction with a position angle of 4° as traced by ^{12}CO J=21, H_2CO 3(0,3)-2(0,2), and H_2CO 3(2,1)-2(2,0). Further investigation of the H_2CO and $c-C_3H_2$ lines uncovered a low velocity extended emission feature slanted to the southwest with a position angle of 72°. We interpret this feature as a potential accretion flow, but further analysis via modeling is necessary. The $C^{18}O$ 21 emission line shows early signs of Keplerian rotation in the disk/envelope. However, other known disk and envelope tracers such as ^{13}CO, N_2D^+, and H_2CO fail to show signs of rotation. We find that CARMA-7 does not hold a disk larger than 305 AU and that the detection of a strong outflow is not a clear indicator of an evolved disk.

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Makoto Johnstone
Middlebury College

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