

C₃O IN THE CARBON STAR IRC+10216

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We report the detection of C₃O in the circumstellar envelope of IRC+10216. Five rotational lines of this molecule were observed at 2 and 3 mm using the Kitt Peak 12 m telescope of the Arizona Radio Observatory (ARO). The line profiles were U-shaped, indicating that the molecule is present in the outer shell with a source size $\geq 81.6''$. The derived C₃O column density of $1 \times 10^{12} \text{ cm}^{-2}$ is two orders of magnitude larger than the value predicted by the most recent chemical model of IRC+10216 (Millar, Herbst & Bettens 2000). C₃O is the sixth oxygen-bearing molecule that has been identified in IRC+10216, and our observations represent the second astronomical detection of C₃O.