

Abstract Submitted
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Comparing the 2MASS and WISE Infrared Databases for Classification of Background Stars and Embedded Young Stellar Objects JOHN GRZEHOWIAK, SAMANTHA SIMPSON, RICHARD BEACH, Baylor University Department of Physics, SACHINDEV SHENOY, NASA Ames Research Center, DWIGHT RUSSELL, Baylor University Department of Physics — The Taurus Molecular Cloud is a region of high rate of star formation. The 2MASS (Two-Micron All Sky Survey) online infrared database is an often used way to probe a Dark Molecular Cloud (DMC) such as Taurus Molecular Cloud. Using the J (1.25 microns), H (1.65 microns), and K (2.17 microns) bands, the 2MASS database can see through a visually opaque cloud to observe reddened background stars. The WISE (Wide-Field Infrared Survey Explorer) infrared database is also helpful in probing DMC's. It resides in the far infrared, with the bands w1 (3.4 microns), w2 (4.6 microns), w3 (12 microns), and w4 (22 microns). Because DMC's have star forming regions, there are stars embedded in the cloud, called Young Stellar Objects (YSO's). Using both databases to probe the Taurus Molecular Cloud we have compared the data collected on the stars received through color index graphs. The indices presented which stars are YSO's and which are background stars. The goal of this study is to compare the color index graphs of the 2MASS and WISE databases to find if the WISE database can determine which stars are YSO's better than 2MASS.

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