

INFRARED PHOTOMETRY OF OH/IR STARS

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We have initiated a near infrared photometric study of OH/IR stars and proposed protoplanetary nebulae, using the 2.12 m telescope and the IR photometric system at the Observatorio Astronómico Nacional in Baja California, México.

The aim of this project is to derive near IR characteristics of suspected protoplanetary nebulae and their relation with those of young PN.

J, H, K, L and M magnitudes for 17 objects, obtained from three observing seasons, are presented. Reported variable and non-variable OH/IR stars have been observed; in the sample, we have included the objects with detected ionized gas (Pottasch and Zijlstra, 1987, A. A. Lett., in press), as well as some "photoplanetaries".

Near IR color-color diagrams have been constructed for the observed objects. From the (H-K) vs (K-L) and (J-K) vs (K-L) diagrams, the following trend is noted: the variable OH/IR star seem redder than the objects with ionized gas which are redder than the non-variable OH/IR stars.

A plot of the energy distribution of the observed objects shows that variable OH/IR's have a steeper near-IR spectra than non-variable objects. These results are similar to those reported by Habing, van der Veen and Geballe ("The Late Stages of Stellar Evolution", ed. S. Kwok and S. Pottasch). However, the objects with ionized gas have both kinds of energy distribution (flat and steep).