

YOUNG STELLAR OBJECTS IN THE LARGE MAGELLANIC CLOUD

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We present the results of a search for compact infrared objects in the direction of type I OH/H₂O maser sources discovered towards H II regions in the Large Magellanic Cloud.

So far, H₂O masers have been reported in the direction of 4 nebulae, N 105 A, N 157 A, N 159 and N 160 A. The presence of maser emission reveals a recent massive star formation activity which can be reinforced by the detection of compact (less than 3 arcsec) IR sources usually interpreted as "young stellar objects" (YSO) or cluster of objects of large mass and luminosity. Three such sources have been found at the maser positions with the ESO 3.6-m telescope at La Silla and have been interpreted as YSOs.

We present and interpret the near and mid infrared photometric observations of these objects and specially of the source found in N 160 A which is, by far, the most luminous. Our data combined with the IRAS measurements lead to a total IR luminosity of $2 \times 10^6 L_{\odot}$ comparable to the brightest similar objects of our Galaxy.

For this object, we report the detection of Br γ , a marginal detection of Br α , the presence of a strong silicate absorption in the 9.6 μ m band and the possible identification with a very faint object revealed on a CCD red print obtained at the 1.5-m Danish telescope at ESO.

A programme of systematic search for YSOs in the LMC, towards IRAS sources is planned. The study of their near infrared characteristics and specially of their "dust features" will have an important impact on the differences, if any, of the star forming processes in our Galaxy and the LMC.