

INFRARED OBSERVATIONS OF GGD OBJECTS

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We present accurate positions and near infrared photometry (Table I) of 11 point-like objects in the neighbourhood of GGD objects obtained on the 1.55 m and on the 1.23 m in Teide Obs. and Calar Alto Obs. respectively, in Spain. Several of the near infrared sources are directly associated with the GGD nebulae and/or are candidate for their excitation. In addition some of them seem to be the near infrared counterparts of IRAS sources. We believe, on the basis of their infrared excess, far infrared emission (IRAS), association with nebulosity, coincidence with H₂O masers or the fact that in most cases the observed luminosities are higher than those expected for main sequence stars, that most of them (9/12) are young stars embedded in the dark clouds which contain the GGD objects. The loci of the detected sources in an (H-K,K-L) infrared two-colour diagram is the same as that obtained for known pre-main sequence stars, such as T Tauris and Herbig Ae-Be stars, indicating the presence of dust shells with temperatures in the range 800-1500 K. The observed range in luminosity, 10-4600 L_⊙, added to other different characteristics found between them, such as the presence, or absence, of H₂O masers, indicates the interest for a detailed study of the infrared sources and related GGD nebulae.

For GGD1, GGD2-3, GGD9, GGD19, GGD29 and GGD36 no sources were found, to a limiting₂ magnitude of K=10. The searched area were approximately 60x60 arcsec² around the nominal GGD position.

TABLE I . Near infrared positions (1950.0) and photometry of GGD/ IR-sources.

Infrared source	Source position		Photometric magnitudes									
	α	δ	α	J	H	K	L	M				
GGD4	IRS	05 ^h 37 ^m 21.7 ^s +23°49'23"	11.46 \pm 0.09	9.88 \pm 0.02	7.56 \pm 0.02	5.33 \pm 0.02	4.14 \pm 0.04					
GGD7	IRS1	05 38 24.2 -08 06 03	10.49 \pm 0.03	9.53 \pm 0.03	9.27 \pm 0.04	>8.7						
	IRS2	05 38 23.9 -08 06 54	10.79 \pm 0.04	9.53 \pm 0.02	8.92 \pm 0.02	7.40 \pm 0.11	>6.0					
	IRS3	05 38 25.9 -08 07 25	10.12 \pm 0.02	9.34 \pm 0.02	8.99 \pm 0.03	8.03 \pm 0.17	>6.0					
	IRS4	05 38 24.4 -08 08 39			EXTENDED							
	IRS5	05 38 21.9 -08 09 00	>13.37	11.50 \pm 0.13	10.77 \pm 0.08	>8.7						
GGD8	IRS1	05 48 16.3 +03 07 13	12.47 \pm 0.20	10.70 \pm 0.11	9.59 \pm 0.05	8.31 \pm 0.10	>5.7					
	IRS2	05 48 16.3 +03 06 43	9.27 \pm 0.01	8.21 \pm 0.02	7.62 \pm 0.14	6.68 \pm 0.05	>6.0					
GGD10	IRS1	05 59 53.8 -09 06 31	>13.37	11.78 \pm 0.12	10.20 \pm 0.09	7.7 \pm 0.1	6.0 \pm 0.2					
	IRS2	05 59 54.4 -09 06 02	12.52 \pm 0.10	10.73 \pm 0.04	9.98 \pm 0.03	>8.6						
GGD16-17	IRS1	06 10 23.0 -06 12 55			10.50 \pm 0.15	7.43 \pm 0.20						
	IRS2	06 10 24.0 -06 12 20	11.70 \pm 0.08	10.77 \pm 0.02	10.02 \pm 0.03	>7.7						

Error positions are ± 2 arcsecs. Magnitude errors are 1σ ; limiting magnitudes are 3σ .