SURFACE DISTRIBUTION OF M STARS WITH DIFFERENT IRAS COLOUR

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The surface distribution of M stars is studied by differentiating them according to whether they show a circumstellar dust shell (CS) or not. Analysis shows that galactic latitudinal and longitudinal distributions are not determined by spectral subclasses alone. The study also indicates that the M type stars with CS have higher intrinsic luminosities in the K band than those without CS. The M stars used in the study are obtained from the Two Micron Sky Survey catalogue (IRC) which is an unbiased sample with respect to the interstellar extinction. The CS feature is identified by the ratio of flux densities at 12 and 25 μm in the IRAS point source catalog.

Table 1. Spectral composition of stars without and with CS.

spectral type	number of stars without CS	with CS	total
K and earlier	1318	36	1354
early M (M5 & earlier)	1650	614	2264
late M (M6 & later)	325	1117	1442
S type stars	31	40	71
carbon stars	130	58	188
total IRC stars identified with an IRAS point source	3454	1865	5319

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