METAL ABUNDANCES OF YOUNG STELLAR GROUPS

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The metal abundances of young stellar groups in the solar vicinity are obtained from the photometric [Fe/H] ratios observed for the red giant group members. The definition of the groups has been rediscussed with the help of a sample of B5-A0 stars whose physical properties are derived by Cramer (1979). The young G3-K5 giants have been selected according to their spatial velocities and their age derived from the Geneva colours (Grenon 1978). They show the kinematics of A stars (Eggen 1963). The star concentrations coincide in both (U,V) planes (red giants and B & A stars) in the zones listed below with the value of the mean [Fe/H] and galactocentric distance, $\bar{\varpi}$.

U	V	$\overline{[Fe/H]}$	$\sigma_{[Fe/H]}$	$\bar{\varpi}$
+38,+47	-15,-22	+.195 ± .019	0.05	9.34
+28,+38	-12,-25	+.110 ± .029	0.10	9.45
+18,+28	-11,-20	+.054 ± .034	0.12	9.52
+10,+25	-2 ,-11	-.062 ± .024	0.11	9.96
- 1,-15	+6 ,-2	-.108 ± .029	0.15	10.36
+17,-3	-22,-33	+.010 ± .029	0.12	9.02

The various stellar groups show systematic differences of the mean [Fe/H] ratio. The metal content varies from 0.8 to 1.5 $Z_\odot$. Within a group, the dispersion of the abundances is small, the typical value σ[Fe/H] being an upper limit. For O,B,A star group members, a narrow range of possible [Fe/H] can be predicted. The increase, in the mean, of [Fe/H] with decreasing ϖ reflects the effect of the large scale abundance gradient; but, locally, it is not the dominant cause of dispersion of the abundance observed among the young stellar groups.

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