

## A Determination of the C/M5<sup>+</sup> Ratio in the Galactic Plane

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Two deep low-dispersion objective-prism spectral surveys, in the yellow-red and near-infrared spectral regions, have been carried out at Abastumani Astrophysical Observatory for the identification of late-type stars, especially carbon stars, with the 70-cm meniscus telescope equipped with a 2° prism (1250 Å mm<sup>-1</sup> at  $H_\gamma$  and 7000 Å mm<sup>-1</sup> at the A-band). As a result of both surveys about 2200 carbon stars have been identified, among them more than 1400 new ones. On the basis of these spectral surveys the C/M5<sup>+</sup> ratios have been determined in 100 survey fields located at latitudes  $b = 0^\circ, \pm 3.6$ . The numbers of M stars were counted in 2° × 2° squares. The results are given in

Region	New	All	N/S	C/M5 <sup>+</sup>	Region	New	All	N/S	C/M5 <sup>+</sup>
30–50	85	111	0.56	0.02	115–130	115	181	1.12	0.09
50–70	145	217	1.09	0.04	130–145	79	122	0.81	0.14
70–90	156	264	1.32	0.06	145–165	83	172	0.86	0.25
90–115	146	278	1.11	0.09	195–210	53	158	1.005	0.30

the table. As is seen, the C/M5<sup>+</sup> ratios vary from 0.02 to 0.30 as the longitude varies from 30° to 210°. It is well known that in the galaxies of the Local Group this ratio is correlated with the metal abundance of those systems. It might be noted that this ratio is equal to 0.7 and 4.4 for the LMC and SMC, respectively (Richer, 1989, in IAU Coll. 106, *Evolution of Peculiar Red Giant Stars*, p. 35).