

## KINEMATICS OF GALACTIC GLOBULAR CLUSTERS FROM SCHMIDT-PLATE ASTROMETRY

*New results for M 5 and M 12*

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From measurements of Tautenburg Schmidt plates with the APM facility in Cambridge we obtained absolute proper motions of the Galactic globular clusters M 3 and M 92 directly with respect to large numbers of background galaxies (Scholz et al. 1993, 1994). We have extended our work to the dSphs in Draco and Ursa Minor (Scholz & Irwin 1994) and to other Galactic globular clusters using Tautenburg, Palomar and UK Schmidt plates. Combining our absolute proper motion of a cluster with its known radial velocity and distance (using common parameters of the solar motion) we derive the cluster orbit in the Galaxy (cf. Odenkirchen & Brosche 1992).

Our new results for M 12 are in good agreement with those of Brosche et al. (1991). For M 5 we found an absolute proper motion in the same direction as given by Cudworth & Hanson (1993) but only about half of the value in  $\mu_\delta$ . Our velocity values (right-handed system) differ from those given in Cudworth & Hanson (1993) by 88 km/s in *U* and 216 km/s in *V*.

Cluster	$\mu_\alpha \cos \delta$ [mas/a]	$\mu_\delta$	<i>U</i>	<i>V</i> [km/s]	<i>W</i>
M 5	$+6.7 \pm 0.5$	$-7.8 \pm 0.4$	$316 \pm 31$	$195 \pm 26$	$-203 \pm 29$
M 12	$+3.1 \pm 0.6$	$-7.5 \pm 0.9$	$88 \pm 17$	$131 \pm 31$	$-166 \pm 24$

### References

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