COMPUTER-BASED CATALOGUE OF OPEN-CLUSTER DATA

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The third edition of the computer-based catalogue of open-cluster data has now been produced and is disseminated through the Centre de Données Stellaires, 11 rue de l'Université, F-67000 Strasbourg, France. It is also available through World Data Center A, NASA, Greenbelt, MD 20771, USA.

The following exhibits are available at the poster session:

I. An ASCII print-out of the cluster catalogue, corresponding to file 2 of the magnetic-tape version (blue folder)

II. ASCII print-outs of the following files (grey folder):

Introduction and description (file 1)
References (file 3)
Alias lists (file 4)
Clusters in order of longitude (file 5)

The aim of this catalogue is to give salient data for all known open star clusters in our Galaxy. As far as possible only published data values have been quoted; for some of the parameters these values have been selected from references, which are listed.

In particular, for the 1983 edition I have added new information based on inspection of the Palomar, ESO and SERC surveys. For each cluster that could be identified on the available charts I have estimated the diameter, made a new classification in Trumpler's system and given an estimate of the number of member stars. The inspection has also been the basis for statements in the alias list that certain clusters are dubious. Those clusters that are dubious both according to my inspection and according to the CSCA catalogue, have been removed from the catalogue but they still appear in the alias listing.

The definitions of the data values are in most cases unambiguous. However, the following points should be clarified:

H. van Woerden et al. (eds.), The Milky Way Galaxy, 143–144.

Cluster diameter. In the literature some quite convincing cases have been made for the existence of large coronas around open clusters. This may be a general phenomenon, although for most clusters only the diameter of the cluster nucleus is known. For reasons of homogeneity, this is used even when the existence of a cluster corona is likely. For most clusters two diameters are given. My own estimates from survey prints should form a reasonably homogeneous sample. In addition, I have quoted the most reliable, often the only, value available in the literature.

Interstellar extinction. Even when interstellar extinction is known to vary across a cluster I have chosen to quote the average value of A(V). The references given provide more details. If the reference gives only colour excess, I have derived the extinction using the relations A(V) = 3.1 E(B-V) and A(V) = 4.28 E(b-y) for the UBV and uvby systems. Extinction and (B-V) turn-off values are given according to Janes and Adler (1982). When that compilation includes multiple references, Dr K. Janes has made the selection.

Integrated properties. The total V magnitude and the integrated B-V colour have been calculated by Mr. B. Skiff, Flagstaff, Arizona, using available photometric data. The number of observed stars used is sometimes different from my own estimate of membership from survey charts. Reasons for such difference can be inclusion of non-members or limited resolution on the survey charts.

Cluster age. When a cluster shows star formation during an extended period, I have given the beginning of that period, i.e. the highest age. In my selection of age data I have preferred results based on isochrone evaluations. Nevertheless, most of the catalogue values for ages are from colour-magnitude morphology.

Metallicity. As far as possible, metallicity values refer to [Fe/H] data such as can be derived from spectral analysis or from uvby photometry.

Radial velocities. The data for cluster radial velocities have been collected by Dr. S. Wramdemark of Lund Observatory. They represent weighted mean values for member-star velocities as published up to 1980. The weighting procedure takes into account the number of stars in the cluster for which radial velocity had been measured, the accuracy (Wilson class) for each stellar radial velocity and the calculated imprecision in the mean radial velocity for the cluster. Five weight classes are identified by w = 1, 2, 3, 4 and 5 in order of increasing precision.

REFERENCE

Janes, K.A., Adler, A.: 1982, Astrophys. J. Suppl. 49, 425