

Lab 3 - Star Clusters

Here we take a closer look at two types of star clusters, open and globular, as noted in ASTR 203, p.20.

Open clusters http://en.wikipedia.org/wiki/Open_cluster like the Pleiades (M45 in Taurus) and The Bee Hive (M44 in Cancer) are young, loosely grouped star clusters, with relatively few members. These stars are gravitationally attracted to each other, having formed from the same giant molecular cloud. http://en.wikipedia.org/wiki/Molecular_cloud More than 1,000 open star clusters are known in the Milky Way galaxy.

Globular clusters http://en.wikipedia.org/wiki/Globular_cluster are tightly bound large groups of older stars, and sometimes contain hundreds of thousands of stars. Examples include M79 in Lepus. http://en.wikipedia.org/wiki/Messier_79 There are at least 150 known globular star clusters in the Milky Way.

Some globular clusters such as M3 http://en.wikipedia.org/wiki/Messier_3 also contain RR Lyrae type variables http://en.wikipedia.org/wiki/RR_Lyrae_variable used in measuring galactic distances.

Objective

- 1) Photograph 4-8 star clusters during semester as possible, and identify their type, distance, angular size and location in the sky. Specific targets will be provided.
- 2) Load your final (.fits) images to DS9 (Lab 1) and experiment with different features such as image stretching, false color, and the astrometry functions. Note the specific differences between different cluster types.