MAGNITUDE DETERMINATION OF STARS IN THE GLOBULAR CLUSTER M22 USING CLEAR AND GREEN FILTERS

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ABSTRACT

MAGNITUDE DETERMINATION OF STARS IN THE GLOBULAR CLUSTER M22 USING CLEAR AND GREEN FILTERS

The image of the globular cluster was captured using the 14 inch Celestron Telescope. The globular cluster is a collection of spherical component stars which its look like a globes with a dense concentration of stars at their centres. The globular cluster that was successful imaged is M22. This image was captured using green and the clear filters. The aperture photometry was used to determine the instrumental magnitude of stars in M22 for both filters. The scale used to represent the star's brightness is magnitude. Bright stars have a very low magnitude. This research is done with the objective to determine the correlation between the instrumental magnitude of M22 using the green and clear filters. The instrumental magnitude from clear filter is lower than instrumental magnitude from green filter. The differences in instrumental magnitude of the stars between this two filters showed that there are almost constant although using different filters.

CHAPTER 1

INTRODUCTION

1.1 General information

Astronomy is a science involving the observation and explanation of events occurring outside Earth and its atmosphere. It studies the origin, evolution, physical and chemical properties of objects, such as stars, planets, comets, galaxies, and the cosmic background radiation. It is concerned with the formation and development of the universe, the evolution of physical and chemical properties of celestial objects and the calculation of their motions.

Astronomical observations are not only relevant for astronomy as such, but provide essential information for the verification of fundamental theories in physics, such as general relativity theory. Complementary to observational astronomy, theoretical astrophysics seeks to explain astronomical phenomena.

Astronomy is one of the oldest sciences, with a scientific methodology existing at the time of Ancient Greece and advanced observation techniques possibly much earlier. Historically, amateurs have contributed many important astronomical discoveries, and astronomy is one of the few sciences where amateurs can still play an active role, especially in the discovery and observation of transient phenomena.