CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

Name(s)

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Project Number

S1914

Project Title

Determining the Average Diameter of Globular Clusters

Abstract

Objectives/Goals
As I was doing background research on globulars, I came across an article by George O. Abell that claimed, "the avergage linear diameter of globular clusters range from 20 to 100 parsecs or more". I also found a book and method by Ashman and Zepf that supported that claim. I think that the range of the claim should be changed. My instructor, Jeff Adkins, helped me come up with a new method in which I could find the average diameter of globulars.

Methods/Materials
I found the known distnaces from a list found by william E. Harris. I used Simbad and Aladin Online to obtain the image. Then I used Image J to find the diameter. Then, using the equation I came up with, $d = r \cdot \tan E$, where r is the distance in parsecs.

Results
I then conducted my own tests and found 18 out of 20 points that demonstarted my hypothesis correct. I think that the range of which the claim was made should be changed.

Conclusions/Discussion
There are globulars whith average diameters less than 20 parsecs.

Summary Statement

Finding the average diameter of globular clusters using a whole new mathematical method I came up with.

Help Received

From my instructor