CORRELATION BETWEEN THE RED AND BLUE MAGNITUDE OF STARS IN THE GLOBULAR CLUSTER NGC 2419

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This Final Year Project Report entitled **"Correlation Between The Red and Blue Magnitude of Stars in the Globular Cluster NGC 2419"** was submitted by Ainolwady bin Idris, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons) Physics, in the Faculty of Applied Sciences, and was approved by

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IN THE NAME OF ALLAH, (ALMIGHTY) THE GRACIOUS, THE MOST MERCIFUL

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ABSTRACT

CORRELATION BETWEEN THE RED AND BLUE MAGNITUDE OF STARS IN THE GLOBULAR CLUSTER NGC 2419

Correlation between the red and blue magnitude of stars in the globular cluster NGC 2419 was analyzed. The image was obtained at Universiti Malaya and the best exposure time for imaging was 90 seconds whereby the 14" C14 Celestron telescope and ST-8XME CCD Camera were used. The signal to noise ratio and the magnitudes has been calculated by using aperture photometry from Astronomical Image Processing (AIP) software. The highest signal to noise ratio is in the blue filter which is 706.8495 while for red filter is 692.6696. The lowest signal to noise ratio is in the blue filter which is 18.50178 while for red is 21.44026. The result of the magnitudes shows that the red magnitudes are proportional to the blue magnitudes and the stars in red filter are brighter than that stars in blue filter. It leads to the fact that most of the stars in NGC 2419 consist of the old stars and the older the star is, the less temperature it has. In addition, it also shows that the globular cluster is one of the earliest objects existed in the formation of the universe.