Annual report for the Variable and Double Star Section

(June 2019)

DSLR photometry of eclipsing binary stars.

The author collaborated with the Variable Stars South group (VSS, formerly the Variable Star Section of the RANZ) in several eclipsing binary photometry projects.

A paper titled "New light on R Arae" was published in the *Information Bulletin on Variable Stars* (IBVS). The latest observations confirmed the predicted period increase and mass transfer rates for this unusual eclipsing binary system.

Articles on other eclipsing binary systems, V777SGR, QZ CAR and BL TEL were published in several VSS newsletters.

Other activity

Neville Young and Jose da Silva, from the Pretoria Centre, successfully observed the exoplanet transit of HD189733 using a DSLR camera and 10" SCT. An excellent article on this project was published in MNASSA. Jose is working as part of an international collaboration between China, USA, UAE, Czech Republic, Spain, Cyprus, Chile and SA. The aim is to search for habitable exoplanets around non-flare G, K and M (red dwarf) type stars within 100 light years of Earth. He is using the 14 inch SCT and instrumentation at the UNISA observatory to perform the required photometry.

Other variable star observers, including Berto Monard and Tim Cooper, submitted observations to the AAVSO and other organisations. The author submitted 490 DSLR photometric measures to the AAVSO and VSS data bases.

Early warnings of discoveries and interesting events were posted to alert observers and observations, light curves and other information was posted on Facebook.

Talks were given on Variable Stars and DSLR photometry of eclipsing binary stars.

Double stars.

The author continued with measures of Southern, wide double stars with a Celestron C11 telescope and Astrometric eyepiece.

No other double star activity was reported.

Dave Blane

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ASSA