

# ***Annual report to the ASSA AGM on 13<sup>th</sup> August 2020***

***Dave Blane – Director, Variable and Double Star Section***

## ***Variable stars***

During the period under review there was considerable activity in the field of variable star observing.

Jose da Silva, from the Pretoria Centre, continued his exoplanet work 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.

He was invited to join an exoplanet project with The Russian Academy of Sciences and is co-author on a paper on the transit timing of exoplanet, WASP-4b. The paper will be published in the Monthly Notices of the Royal Astronomical Society (MNRAS) in the UK.

The prolific Berto Monard, a recipient of the Overbeek medal, continued his work on high energy systems with numerous observations being submitted to the AAVSO and other organisations.

Tim Cooper braved the early morning Highveld cold to observe the bright nova in Reticulum and his observations were submitted to the AAVSO International Data Base.

The author continued his DSLR photometry programme and collaborated with the Variable Stars South group (formerly the Variable Star Section of the RANZ) on several eclipsing binary photometry projects. A paper on “QZ Carinae – “The Orbit of Two Binary Pairs” was published in the Journal of the AAVSO.

The periastron passage of eta Carinae was closely followed as part of the long-term monitoring of eta Car in collaboration with VSS and Prof. Augusto Damineli , University of São Paulo.

Follow up measures of QZ Car for the 2020 season were made to detect any possible orbital changes.

Nine hundred DSLR photometric measures were submitted to the AAVSO and VSS data bases.

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

The author enrolled in the AAVSO’s mentoring programme and is currently supporting new variable star observers, mostly in the USA.

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

No variable star observations were received by the Section as most observers submit their data to organisations such as the AAVSO, BAA and VSS.

## ***Double stars.***

No double star reports were received for the period under review.