

Alan Plummer Clocks Up 60,000 Variable Star Observations!

Alan Plummer is a musician who is also a dedicated variable star observer. He lives with his family at the Linden Observatory in the Blue Mountains NSW. Alan was appointed the Visual Research Coordinator for the VSS RASNZ at its founding in 2009 and developed projects to strengthen visual research in the south. The VSS is a continuation and modernization of the original Variable Star Section of the Royal Astronomical Society of New Zealand (RASNZ). Along with the American Association of Variable Star Observers (AAVSO) in the north, both have a long history of coordinating the efforts of variable star observers with their professional counterparts.

Alan also wrote articles on variable stars for Australian Sky & Telescope. He has affiliations with Sydney City Skywatchers, AAQ and the AAVSO.



Alan with his 16inch Lightbridge Dobsonian at Linden Observatory

Variable stars change brightness, slowly and ponderously, rapidly or explosively, or anywhere in between. Studies of these stars contribute much to our knowledge of stellar evolution and professional astronomers rely heavily on amateur observations. The observation of such stars is the easiest way for the amateur to cooperate and interact with professional astronomers around the world, and do valuable, even unique, research.

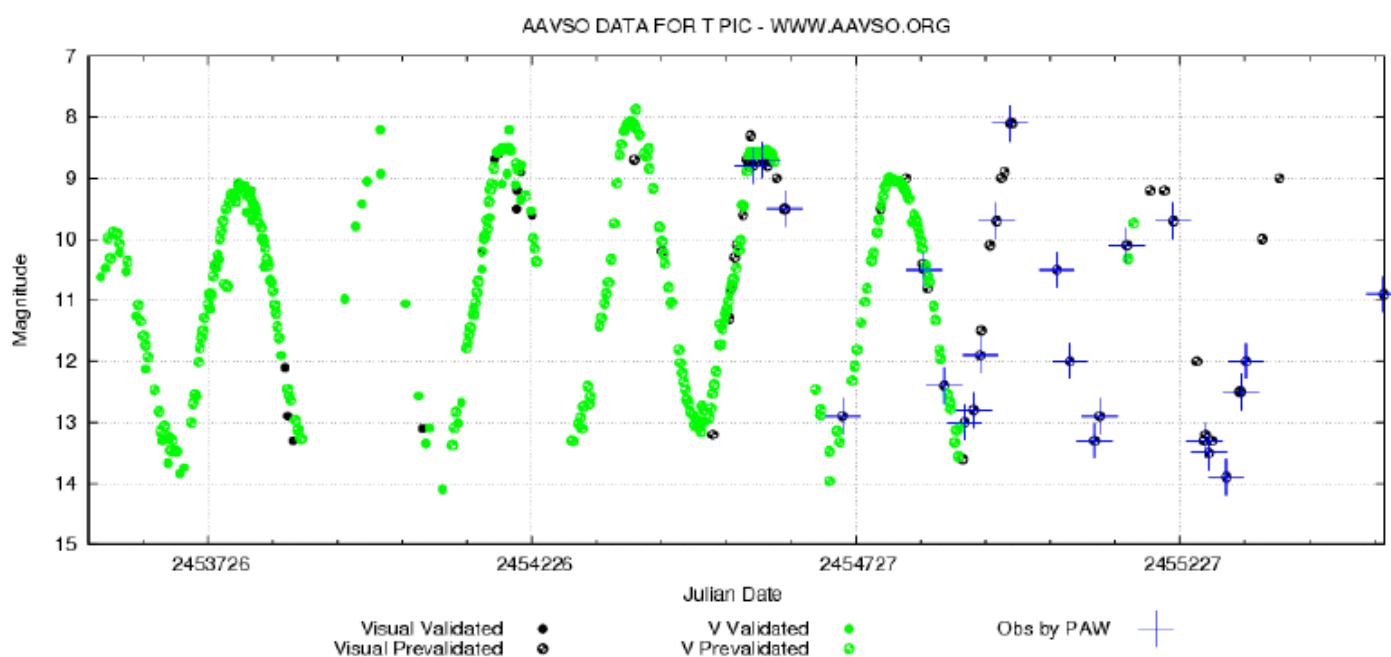
There are a several reasons why a star can change in brightness. Pulsating variables swell and shrink due to internal forces. An eclipsing binary will dim when it is eclipsed by a faint companion and then brighten as the occulting star moves away. Some variable stars are actually extremely close binaries, exchanging mass as one star strips the atmosphere from the other.

At age 8, Alan recalls finding the Andromeda Galaxy (seen as a small fuzzy ellipse) from his backyard in suburban Sydney with a small telescope given to him at Christmas. As an armchair astronomer and avid reader of science fiction, it was another 30 years before he came back to observing. He has been observing now for about 12 years.

His focus is on visual observing. Alan does all of his observations through the eyepiece, mostly through his 16inch telescope at Linden, occasionally using binoculars and a smaller 8inch scope for convenience. The combination enables a program of stars to be observed from naked-eye brightness through to magnitude 15.5. Alan produces impressive papers employing much archival research. As an astronomer he has published in Europe, America, New Zealand, and Australia. His “allergies” include right-angle finderscopes, GOTO systems and computer screens in the observing area.

Alan’s variable star observations are made by comparing the target star against a sequence of measured constant stars nearby. With practice and the correct charts, one can get 0.1 mag accuracy. This is sufficient for many classes of variables – many thousands of stars.

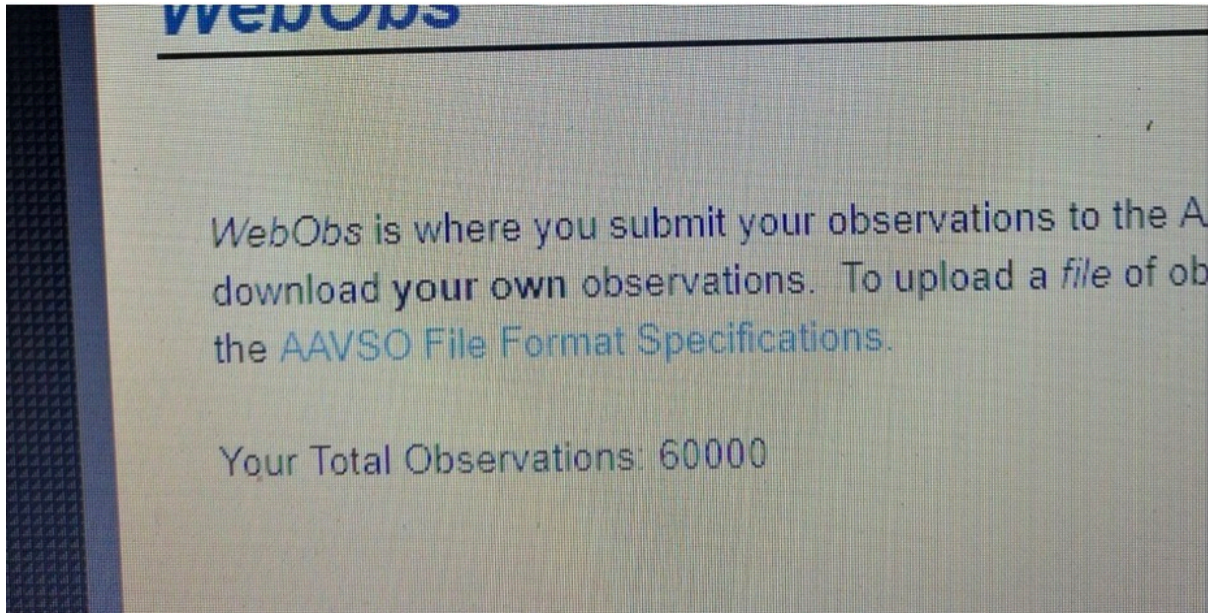
Shown below is a chart from the AAVSO database of T Pic with some observations added by Alan. The historical light curve of this star goes back for many decades. The pulsating star is nearing the end of its life as a red giant and can be monitored by amateur astronomers for any evolutionary changes. There are hundreds of similar LPVs (Long Period Variables) in the AAVSO database, often with observations going back a century or more. As Alan points out: “Astronomy Needs You!”



2000 days of the light curve of T Pictoris from the AAVSO International Database. Observations by Alan (‘PAW’) marked with blue crosses.

The last time I had noted this in 2014, after 12 years of variable star observing, Alan had logged 50,000 observations as submitted to the AAVSO.

As of the 21st May 2018, Alan has now clocked up a new milestone of 60,000 variable star observations!



A short note from Alan:

“16 year’s work. Number 60,000 is RT Crucis (13.0 mag, UT9:50, 21/5/18), just under the Southern Cross. This is in support of Chandra X-ray observations. Dr Karovska (Harvard-Smithsonian Center for Astrophysics) writes: "RT Cru is a fascinating member of a new class of hard X-ray emitting symbiotic binaries. The RT Cru system contains a high-mass white dwarf accreting from a mass-losing M giant. The white dwarf is surrounded by an accretion disk fed by the wind of the red giant." Now for 60,001...”

Congratulations to Alan from all here at WSAAG on this amazing milestone!

Rob Horvat (WSAAG)

29th May 2018