



United States Naval Observatory
Astrometry Department
3450 Massachusetts Avenue, NW
Washington, DC 20392-5420 U.S.A.
INTERNET: wds@usno.navy.mil

17 September 2015

Dear colleagues:

As past presidents of Commission 26, Double and Multiple Stars, of the International Astronomical Union we would like to greet and congratulate you on the occasion of your fourth pro-am meeting.

Both of us work on a daily basis in the maintenance of the Washington Double Star and other associated catalogs and we witness and can testify to the important contributions made by amateurs in the area of double and multiple star astronomy.

When we were making the first double star CD, almost on a lark, we included stars appropriate for our observing list used on the 26 inch refractor in Washington. Since the number of fast moving systems we can access is limited, the observing program was built around what we called “neglected” doubles. These were pairs which were either unconfirmed or had not been observed in a long time. We were both surprised and gratified when this list of neglected doubles were embraced by the community. It seems that people wanted to observe and just wanted someone to tell them what to observe.

When we prepared our second double star CD in 2006, the list had changed dramatically. Due to the publication rate and the complications associated with making these lists their generation is infrequent. However, the cadre of observers now know where to go to find pairs and how to filter the WDS on their own for their own telescope/technique.

In addition to the observation of neglected pairs, many people also began finding new pairs. At first, these were found by simple proximity, but later and currently, amateurs are finding many common proper motion systems which are not merely double stars but true binary stars.

Since 2006 and the production of our last double star CD, the WDS has added 30,000 new double stars and almost doubled the number of measures. In addition to our Δm and Visual Orbit Catalog, we have added a catalog of linear elements which provides predicted positions for pairs which are close but not physically related. We have also identified systems which are determined to be physical or optical by other means, but even with this, of the 133,134 pairs in the WDS, 20,759 are known to be physical, 4791 are optical and the vast majority (107,584) have their status unknown. There is much still to do!

While many astronomy subfields can form a rather strict demarcation between amateur and professional, ever since the times of Baron Dembowski, Reverend Espin and Captain Smyth to name a few, there has been significant involvement by both groups in the study of double stars. They can be very simple systems, and it is possible for a careful and meticulous observer to easily make observations and understand their importance in astrophysics. Indeed, given that most amateurs have access to larger telescopes than were used by the Struve’s, coupled with the affordability of CCDs and the availability of data reduction software, the term “amateur” is not accurate enough and we have come to prefer the term, “financially uncompensated professional.”

Sincerely,

Drs. Brian D. Mason & William I. Hartkopf
Astronomers, US Naval Observatory