

Editorial

The Range of Content in *JAAVSO*

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The *JAAVSO* aims to provide the richest possible resource for the variable star community, and one of the ways it can do so is to include a broad range of topics on variable stars. We publish articles on almost any topic—research, data collection, history, and education—as long as it concerns variable stars.

Concerning the research and the data articles, I have been tracking the number published during the past five years on the different types of variable star, grouped into categories. Figure 1 displays those numbers. There, the categories, arranged in approximate order of largest to smallest number of articles, are as follows.

<i>Eclipsing</i>	Eclipsing binaries
<i>Misc</i>	Miscellaneous, which may mean more than one kind of variable star, unknown kind, or belonging to none of the other categories
<i>Pulsators</i>	Cepheids of all types, RR Lyrae stars, δ Scuti stars
<i>Novae, SN</i>	Novae and supernovae
<i>Red giants</i>	Mira variables and other pulsating red giants
<i>R CrB</i>	R Coronae Borealis stars and other stars with dust eclipses
<i>Be, LBV, SG</i>	Hot emission-line stars: Be stars, luminous blue variables, and hot supergiants
<i>Exoplanets</i>	Transiting exoplanets
<i>Methods</i>	Instrumentation, observing and data analysis techniques, and modeling

In each category, articles are of two kinds: “Research,” which present research results, and “Data,” which present data compilations with minimal analysis.

The individual graphs in Figure 1 show how our published articles in each volume are distributed among these categories. The first thing to notice is that there has been general (albeit not monotonic) growth in the total number of research articles per volume. Less clear is whether there has been growth in the

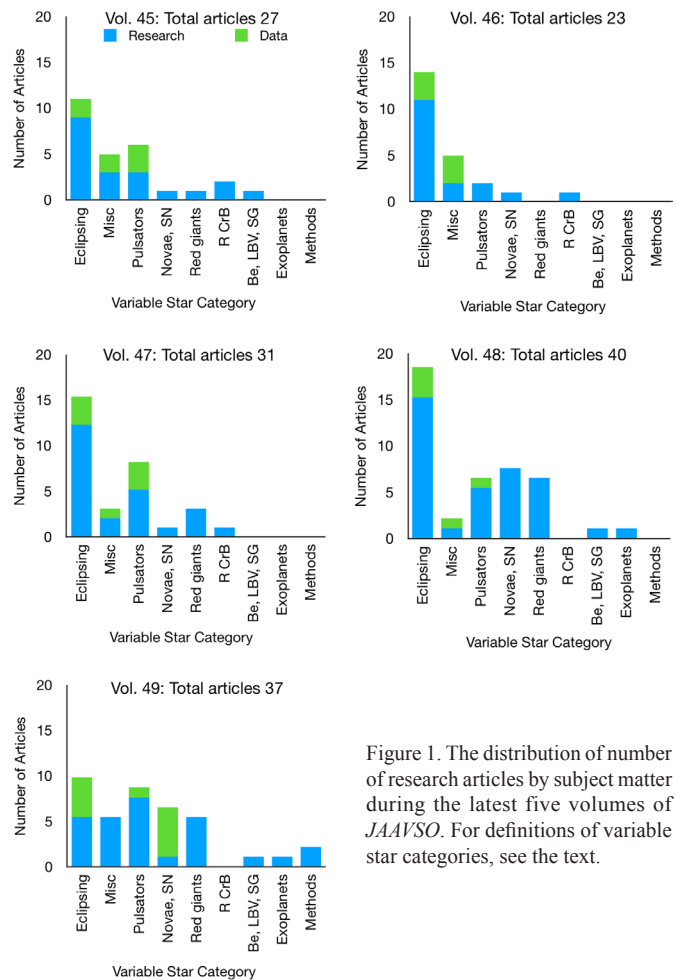


Figure 1. The distribution of number of research articles by subject matter during the latest five volumes of *JAAVSO*. For definitions of variable star categories, see the text.

breadth of the distribution. Volume 49 appears to have a broader distribution than the others, since the peaks are of more nearly equal height and only one of the categories has no articles. Another indicator of breadth is that the median number of articles per bin in Volume 49 is 5, while in the other volumes it is 1 or 2. Of course, these details are influenced by my choice of categories. It is too early to tell whether a real trend toward greater diversity of topic is in progress.

In Volume 49 and looking ahead to articles in process for Volume 50, two growth areas in particular are evident: pulsating stars—RR Lyrae stars in particular—and transiting exoplanets. During the past two years, both have been the

subject of group educational projects: Our Solar Siblings¹ and Exoplanet Research Workshop², respectively. They encourage their students to submit papers on their research results to the *JAASO*. We are grateful for the submissions!

Growth in transiting exoplanet research is especially to be anticipated because of the activities of NASA projects, such as the *TESS* Follow-Up Observing Program (TFOP)³ and Exoplanet Watch⁴, which provides transit modeling software, provides a facility for uploading results to the AAVSO Exoplanet Database⁵, and then siphons those results back to the NASA facility to be incorporated into a global analysis for each exoplanet. AAVSO-affiliated observers are active in both.

Transit timing data are important because most exoplanets have been observed for only a short length of time, and prediction of future transit times is correspondingly uncertain. Continuing observations of transits serve to sharpen the accuracy of the periods and thereby “refresh” the planets’ ephemerides. Targets

are chosen in order to prepare for future observations with large telescopes such as the *Hubble Space Telescope* and the *James Webb Space Telescope*, which will aim to characterize the planets’ atmospheres and other physical properties. Minimizing uncertainties is crucial so that those large telescopes’ time can be accurately scheduled and then effectively utilized. We at the AAVSO look forward to contributing to this exciting effort (Zellem *et al.* 2020).

As this year ends, my thanks go out to our authors, our volunteer referees, and our devoted and highly competent editorial staff. The journal would not function without all of you.

References

Zellem, R. T., *et al.* 2020, *Publ. Astron. Soc. Pacific*, **132**, 054401.

¹<https://ro.ecu.edu.au/ecuworkspost2013/5236/>

²<https://exoplanetresearch.netlify.app>

³<https://tess.mit.edu/followup/>

⁴<https://exoplanets.nasa.gov/exoplanet-watch/about-exoplanet-watch/overview/>

⁵<https://www.aavso.org/databases>