

Dear AXA Observers,

This is an announcement of my intention to discontinue one important aspect of the Amateur Exoplanet Archive (AXA): the plots. I will continue to accept data files, but starting July 17 I won't process them in a way that leads to updated plots, such as TTV and depth, length and shape parameters versus date, nor will I update tables of observations and transit parameter solutions. This will save me about 30 minutes of processing time per data file submission (e.g., about 300 hours per year). However, I am committed to processing data files in a way that allows me to submit them to Caltech's IPAC computer for inclusion in the NStED archive of exoplanet observations, which is a web site that professionals use when searching for data on specific exoplanets.

This reduced level of processing on my part is in response to an increasing rate of data file submissions to the AXA. As I write this I have a backlog of 8 data files, all of which arrived in the past two days. I am gratified by the growth of AXA during the past two years, but this growth is straining my ability to keep up with data processing and web page updates.

The need for an automated system was apparent 1.5 years ago, when I approached the AAVSO to ask if they could host the AXA. Their funding did not allow this, so I inquired at JPL, which led to an agreement with Caltech to add an AXA component to their IPAC NStED archive. The plan for this archive was to automatically accept data submissions from amateurs and provide graphical displays of fitted light curves. The NStED supports data file downloads in a way that meets professional astronomer needs. Therefore, the NStED/AXA is supposed to incorporate most of the AXA features in an automated manner, which would relieve me from manual processing and also accommodate the projected growth of amateur data submissions.

This was a good plan, but the NStED/AXA development is behind schedule and AXA growth is overtaking my ability to keep up with manual processing. Several months ago, when it was apparent that Caltech's implementation of the NStED/AXA was delayed, I began to formulate an interim solution. I decided to solicit funding that would pay for my time to maintain a higher level of AXA activity until the automated system at Caltech was completed. Although I'm retired I have consulting work that competes for my time, and I also have my own observing projects. I cannot justify to myself a reduction of work for paying projects, or my favorite observing projects, in order to support a rising level of volunteer work for AXA. At one time I would have accepted a temporary increase in my commitment to AXA if it was paid for, so I solicited several organizations with a proposal of about \$10k for a year's commitment to supporting the AXA. In almost every case the response was similar: "budgets are tight" – which is a way of saying "no."

My only option at this time is to reduce my level of support to the AXA by limiting aspects that aren't crucial to the archiving goal. This is consistent with my original purpose in creating the AXA: preserving amateur light curve observations for possible use by professionals at some future date when a question can only be answered by data in

the amateur archive. However, there's a problem with this plan to reduce my level of AXA support, which I will describe in the next paragraph.

Part of the motivation for amateurs to submit data to the AXA is to see how their light curves compare with others, and the best way to see this is in a plotted format. Since data submitted to the AXA will no longer appear as light curve plots, or updated plots of transit properties versus date, I anticipate that amateurs will become less interested in submitting data to the AXA and instead submit to the Czech Republic Astronomical Society's Exoplanet Transit Database (ETD), which has plots of some transit parameters. The problem with this destination for amateur data files is that there is currently no path for ETD data files to end up on the IPAC, which is a central location for professional astronomers to begin a search for data in a format that is convenient for their use. I think this limitation is minor, since it could be overcome by a program that automatically downloads data files on the ETD and converts them for ingestion at NStED.

You may detect that I am frustrated by how long it is taking me to get a professional organization to take over AXA responsibilities. I am tired of giving my little "pitch" to established organizations (AAVSO, NASA, NSF, JPL, etc). We can be grateful that Caltech has an interest in the data submission and archiving aspects of the AXA, but their funding charter forbids them from producing plots of transit parameters. I've realized for some time that without plots at AXA the flow of amateur data to Caltech via AXA would dwindle. Since the AXA met this need I was reluctant to terminate AXA's plotting feature. That's why I sought funding for just the plotting task (NASA, Caltech, NSF, CfA, Ames, TPS, etc). Because I can't get any organization to pay \$10K for a year's worth of my commitment for securing the high rate of transfers of amateur exoplanet data to IPAC I must consider the notion that these amateur observations aren't valued by professionals. I have noticed examples of publications based on one or two observations at a professional observatory that provides information either redundant to what's in the AXA or less impressive. It may be true that most professionals have no interest in amateur observations.

I'm also mindful of the fact that it is risky to entrust an archive that has scientific value to an individual who is 70 years old (with a family history of dying young). I therefore feel uncomfortable being a crucial step in the process of archiving amateur data, and am impatient to see the submission process transferred to an organization with much better longevity prospects than mine. I am urging my contact at Caltech to redouble efforts to convert my code for accepting data file submissions and auto-fitting to the language used on the IPAC.

I want to use this occasion to acknowledge the many amateurs who have thanked me for creating and maintaining the AXA. I never intended for this little task to go on for two years, but I liked nurturing it since I believe in the value of amateurs to contribute to exoplanet studies. It is ironic that the AXA has apparently become so successful that I am now receiving more data than I can handle and must take an action that threatens its continued success. I will not solicit a volunteer to take over the AXA because the Czech Republic's ETD is capable of assuming this role.

To summarize, the AXA will remain open for data file submissions, I will continue to tutor new observers, encourage advanced observers, maintain observer information web pages, and announce important observing opportunities to the list of AXA contributors. I will also continue to accept data file submissions and convert them to NStED format and send them to IPAC's NStED archive where they will some day be made public. The only change is that starting July 17 the AXA web site will no longer include light curve plots of submitted data, there will be no updates of the plots of depth, length, shape parameters and the mid-transit time discrepancies versus date, there will be no tables of submitted data, and the data files in standard format will not be available for download.

I'm sorry I can't continue to do more, but two years of the kind of growth experienced by the AXA are straining the limits of this volunteer's efforts to keep up.

Bruce L. Gary  
AXA Webmaster