Chandra Users' Committee Report

Committee Telecon of April 28, 2017

The CUC held its regular spring telecon on 2017 April 28. The only topic on the agenda was the progress on the second version of the Chandra Source Catalog, which is nearing completion. Following the recommendations of the CUC in its September 2016 report, the CXC put together a committee earlier this year, consisting of Mike Watson (U. Leicester) and Andy Lawrence (ROE, U. Edinburgh), to evaluate the process of producing the catalog and make recommendations. This committee produced its report in March 2017 and this report was made available to the CUC well in advance of the meeting.

During the telecon the CUC heard a summary of the recommendations of the Chandra Source Catalog committee from Dr. Fabbiano and the actions that the Catalog Team has taken in response to these recommendations. Following these recommendations, the Catalog Team has reverted to an earlier version of the source matching software, has started the match processing, and is now testing the photometry software. These recommendations and ensuing actions are aimed at improving the efficiency of the catalog production, with a goal of releasing version 2 of the catalog some time in the fall. The Catalog Team is now preparing for a readiness review in June, in which the members of the Chandra Source Catalog committee will also participate. Following a positive review, the catalog production will start in earnest in mid July.

The CUC also heard reports from Dr. Ian Evans and Ms. Janet Evans on the technical aspects of the catalog production and the status of the processing software. A noteworthy issue that came up during these presentations was that the processing software has trouble coping with crowded fields such as the fields of Sgr A* and the Crab. In the associated discussion, members of the CUC suggested that the processing of such fields should not delay the completion of the catalog. The catalog team agreed and noted that the crowded fields are being processed separately in parallel to the main processing effort so that they do not interfere with the production.

The Catalog Team has been releasing preliminary detections lists, which are updated periodically. These can be found at http://cxc.harvard.edu/csc2/. This web site comes complete with detailed explanations of the information available for each source. The Catalog Team encourages the community to visit this site and try out and then send feedback and suggestions to the team. After completion of cross-matching, the resulting catalog source list will also be made available, as a table. Periodically during the production of source properties, newly processed catalog sources will be input to the catalog database and become available through the viewer *cscview*.

During the question and answer period following the presentations, the following points were raised and clarified.

Timeline for the catalog release. – Assuming there are no unexpected technical problems that require a lot of time to solve the catalog will be ready for release in October 2017. The more firm deadline (associated with the recommendations of the senior review) is to release the catalog by the end of 2017.

Source properties available in the catalog. – In addition to source positions and positional uncertainties, the catalog detections list now available provides count rates in various energy bands. It will be up to the users to translate this count rate into an energy flux by assuming a suitable spectral model.

The CUC is excited at the prospect of the release of version 2 of the source catalog this year. We thank the Catalog Team for their efforts, their expert and hard work, and their perseverance through this technically challenging project. We encourage them to continue to remain focussed during the last stages of this effort. We also suggest that the date of the fall 2017 CUC meeting is a good target date for release of the catalog.