Annual Report, 2014
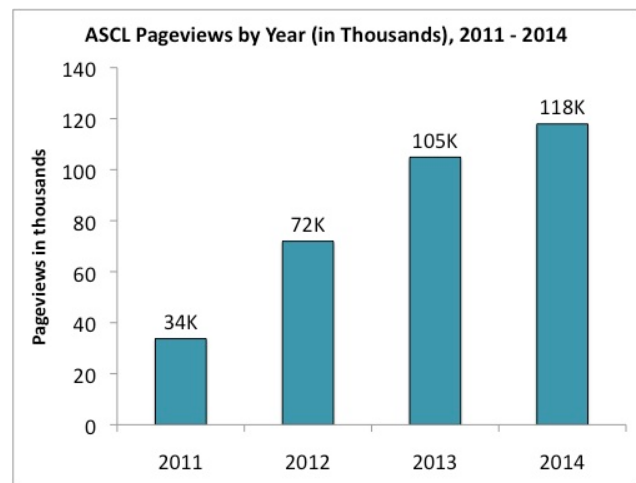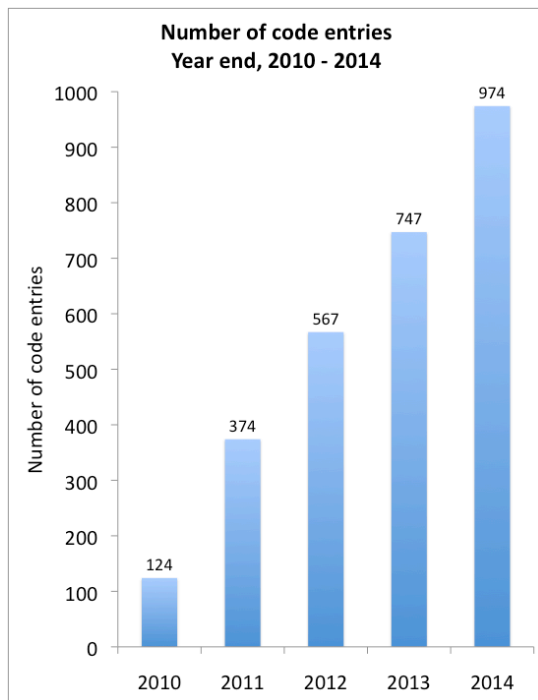## Astrophysics Source Code Library
March 31, 2015

Background

The Astrophysics Source Code Library (ASCL), founded in 1999 by Robert Nemiroff (Michigan Technological University) and John Wallin (Middle Tennessee State University), is a free online registry for source codes of interest to astronomers and astrophysicists. ASCL source codes have been used to generate results published in or submitted to a refereed journal. The home page (http://ascl.net) offers information about the resource and access to the code entries.

2014 Growth

The number of codes indexed in ASCL grew an average of 19 per month, up from the average growth of 16.7 codes per month over the 2011-2013 timeframe and the 15 codes per month average for 2013. 228 codes were added in 2014. Use of the site in 2014 increased by 12% over 2013; the site was viewed 104,894 times in 2013 and 117,923 times in 2014. The percentage increase is much lower than the 45% growth from 2012-2013; we cannot account for the lower growth.

There were no changes in the membership of the Advisory Committee; one member, Robert Hanisch, changed his affiliation. The current members are:

Peter Teuben, University of Maryland, Chair
Bruce Berriman, Infrared Processing and Analysis Center/Caltech
Robert Hanisch, National Institute of Standards and Technology
Jessica Mink, Center for Astrophysics

Robert Nemiroff, Michigan Technological University
Lior Shamir, Lawrence Technological University
Keith Shortridge, Australian Astronomical Observatory
Mark Taylor, University of Bristol, UK
John Wallin, Middle Tennessee State University

Alice Allen (Calverton, MD) and Kimberly DuPrie (formerly in Tokyo, Japan and now at Space Telescope Science Institute in Baltimore, MD) are Editor and Associate Editor, respectively. Judy Schmidt (New York, NY) provides development and design work for the ASCL.

Funding
The ASCL remains unfunded. In January, the American Astronomical Society (AAS) provided support in the form of one-day registrations for the AAS meeting (Washington, DC) for non-AAS members speaking at the Special Session the ASCL and AAS Working Group on Astronomical Software (WGAS) organized on software issues. Later in the year, the editor's participation in two events was supported by the organizations sponsoring those events, the Second Workshop on Sustainable Software for Science: Practice and Experiences (WSSSPE2) meeting in New Orleans in November, and .astronomy in Chicago in December. The ASCL and its editor are very grateful for the support.

2014 Highlights

January:	Special session held at 223rd AAS in Washington Harbor (DC)

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Poster presented at 223rd AAS in Washington Harbor
ASCL blog published three posts about the session (announcement/report/tweets)
Astronomy Computing Today reposts report on special session
AAS reposts slightly shorter version of special session report

March: The ASCL registers its 800th code
Teuben and Allen meet with Kelle Cruz, Matthew Turk, David Hogg at AMNH in NYC to coordinate winter AAS activities and decide that Hogg and Allen will propose a special session on software licensing and Turk will be a presenter
Hanisch and Allen attended National Academy of Sciences *Strategies for Economic Sustainability of Publicly Funded Data Repositories: Asking the Right Questions*
ASCL blog features guest post by Jonathan Petters on creating and evaluating data management plans

April: Frossie Economou, the new AAS Working Group on Astronomical Software (WGAS) chair, requests the ASCL create a Special Interest Group (SIG) on software publishing

May: Schmidt, Teuben, and Allen meet chiefly with Chris Erdmann and Alberto Accomazzi, also with Lars Holms Nielsen (via Skype), Gus Muench, and Jessica Mink in Boston to discuss possible collaboration, ASCL infrastructure under development, and projects to work on, with Schmidt taking on getting monthly data to ADS, Teuben working on getting monthly stats from ADS, and Allen generating files for uploading associated papers links to ADS.

June: Sidebar for Special Edition on Computing in Astronomy (IEEE) accepted, authored by Allen, Shamir, and Teuben
Frossie Economou and Allen meet to discuss common goals and activities

July:	New infrastructure/website goes into production
	[Looking before leaping: Creating a software registry](#) paper by Allen and Schmidt submitted to arXiv for WSSSPE2 consideration
	Proposal for Special Session on code licensing for 223rd AAS meeting is accepted
August:	[Enhancements for the Astrophysics Source Code Library](#) article appears on AAS site
September:	"[Mini article](#)" (sidebar) about the ASCL for Computer's Special Edition on Computing in Astronomy (IEEE) published
October:	[Poster on ASCL's new infrastructure](#), titled Astrophysics Source Code Library Enhancements, presented by Hanisch at ADASS XXIV
	[ASCL mentioned](#) in the SIE de Investigación y Enseñanza newsletter
November:	Allen attends [WSSSPE2](#)
	[Preprint](#) for ADASS XXIV poster *Astrophysics Source Code Library Enhancements* appears on arXiv
December:	Nemiroff and Allen attend [.astronomy6](#); Allen leads sessions on improving recognition for software authors and software citation
	List of [AAS225 software events](#) published in ASCL news; notice about the list posted on [AstroBetter](#), [AAS news](#), and the [Astrostatistics and Astroinformatics Portal](#) (ASAIP)

Impact on the community

Some authors are citing codes explicitly and independent of a code paper using ASCL entries. At the end of the year, 116 ASCL entries collectively had 254 citations, meaning 12.1% of the 960 codes indexed in ADS at that time having citations, up from 7.5% in January.

Since implementation of the new infrastructure in mid-year, 65 codes have been submitted by their authors or representatives via the improved submissions page, more than all author submissions in previous years combined. Though a large number of these were submitted by one person on behalf of a large combined code package (Starlink), even the remaining 29 codes is a remarkable number of submissions for the ASCL, moreso considering this number was achieved in less than six months. We take this as an indication that software authors are beginning to recognize value in ASCL registration and having journals request registration is a successful strategy.

It became clear at the December .astronomy meeting that some community members look to the ASCL as a leader to resolve issues around software citation and greater recognition for code authors. The ASCL has taken this to heart and has stepped up efforts to engage publishers and improve software citation, work that will be a major focus for the ASCL in 2015.

2014 Plans Revisited

The following 2014 goals for the ASCL were achieved:
- Write a style guide to better guide the editors and help standardize practices
  - This exists in a Google doc and a suitable public version has been [published](#) on the ASCL
- Organize a session for the AAS January 2015 meeting in coordination with others, particularly Kelle Cruz and David Hogg, who had mentioned possible topics of interest at

the 223rd AAS meeting, and Matt Turk, who has expertise that will be a valuable addition to topics we might cover
- o The result was a session on software licensing at the AAS 225 meeting sponsored by the Data Science Environment at NYU, WGAS, and the ASCL
- Work more closely with staff at ADS to determine better ways of working together and moving data from the ASCL to ADS
  - o ASCL and ADS personnel met in Boston in May
  - o A dynamic report created as a result of the meeting and follow-up conversation allows ADS to pick up completely formatted data on its own schedule
- Improve the infrastructure in some visible way, perhaps by moving the ASCL forum away from Asterisk and editing the display template for a more professional appearance
  - o A completely new infrastructure was built by Judy Schmidt and implemented in July that integrated a MySQL database and new user interface with WordPress for content management and the discussion forum

The following 2014 goal was partially completed:
- Write an editorial policy for the ASCL to better communicate the ASCL's goals to the astrophysics community
  - o The editorial policy is written in nearly final form and exists in a Google doc; it has not been published on the ASCL site as yet

The following 2014 goal was not met:
- Build library to reach 1000 codes by the end of 2014

Previous Plans Still Outstanding
The following 2013 goal for the ASCL was not completed:
- Add two or three people to the Advisory Committee to get input from outside the Anglosphere; suggested additions include a contact in Tokyo, the Netherlands, Germany, Italy, or France, and possibly a South American country

The following 2013 goal for the ASCL was partially completed:
- Find ways to discover and track impact the ASCL has on the astrophysics community

2015 Plans
- Publish WSSSPE2 paper in Journal of Open Research Software
- Create ASCL index in 2014 ADASS proceedings
- Organize a session for AAS 227th meeting on software issues
- Present ASCL enhancements at ADASS XXV
- Work with publishers to improve software citation in journals
- Close out old sites and employ redirects to the new site
- Sustain reasonable growth in number of entries (190-210 additions)
- Upgrade current site to add two new features
- Complete outstanding plans from previous years

Press and bibliography
You've Written a Cool Astronomy Code! Now What Do You Do with It?, Alice Allen *et al*, American Astronomical Society, AAS Meeting #223, January 2014, #255.25, poster

[Astrophysics Code Sharing II: The Sequel at AAS 223](#), Astronomy Computing Today, January 18, 2014

[Astrophysics Code Sharing II: The Sequel](#), AAS news and newsletter, January 28, 2014

[Ideas for Advancing Code Sharing (A Different Kind of Hack Day),](#) Peter Teuben *et al*, Astronomical Data Analysis Software and Systems XXIII Proceedings, May 2014, [arXiv pre-print](#) | [Blog post](#) | [Working documents](#)

[Astrophysics Source Code Library: Incite to Cite!,](#) Kimberly DuPrie *et al*, Astronomical Data Analysis Software and Systems XXIII Proceedings, May 2014, [arXiv pre-print](#) | [poster](#)

Looking before leaping: Creating a software registry, Alice Allen, Judy Schmidt, WSSSPE2, 21 Jul 2014, [arXiv preprint](#)

[The Astrophysics Source Code Library: Where do we go from here?,](#) Alice Allen *et al*, Astronomical Data Analysis Software and Systems XXIII Proceedings, May 2014

[Enhancements for the Astrophysics Source Code Library](#), AAS news and newsletter, August 18, 2014

[Enhancements to the Astronomy Source Code Library (ASCL)](#), Astronomy Computing Today, September 11, 2014

Astrophysics Source Code Library Enhancements, Robert J. Hanisch *et al,* Astronomical Data Analysis Software and Systems XXIII October 2013, [arXiv preprint](#) | [poster](#)

[Software Events at the 225th AAS Meeting in Seattle](#), AAS news and newsletter, December 22, 2014

[Join the Software Publication Special Interest Group (SPSIG)](#), AAS news and newsletter, December 23, 2014