Receiving Credit for Research Software

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Abstract

Though computational methods are widely used in many disciplines, those who author these methods have not always received credit for their work. This presentation will cover recent changes in astronomy, and indeed, in many other disciplines, that include new journals, policy changes for existing journals, community resources, changes to infrastructure, and availability of new workflows that make recognizing the contributions of software authors easier. This talk will include steps coders can take to increase the probability of having their software cited correctly and steps researchers can take to improve their articles by including citations for the computational methods that enabled their research.
Software is the most used instrument in astronomy
New journals

2012 – JORS
Journal of Open Research Software

2013 - A&C
Astronomy and Computing

2014 – ComAC
Computational Astrophysics and Cosmology

2015 - SoftX
Software X

2016 – JOSS
Journal of Open Source Software

2017 – RNAAS
Research Notes of the AAS
Changes in existing journals

Encourage or require software citations
Allow software articles without research results
Encourage or require code release
Community resources

More places to put software and information about software
Indexers capture/track software citations
Broader efforts cross disciplines and influence others
Even more ADS magic

Doctype field value *software*
Can be combined with other fields, such as *keyword*
GREATER RECOGNITION
1. Release your software
“... anything less than release of actual source code is an indefensible approach for any scientific results that depend on computation...”

...“a hidden coding error fueled a seven-year dispute between two of condensed matter’s top theorists.” Physics Today, 22 Aug 2018

...a change in a code researchers had not noticed led to incorrect results
1. Release your software
2. Assign a license
3. Specify how you want your software cited
Citation methods

Software itself via ASCL, JOSS, DOI from archiving service

Article using or describing the code

GitHub, SourceForge, BitBucket repo URL NO!

URL to personal institutional page NO!

URLs in general NO!
1. Release your software
2. Assign a license
3. Specify how you want your software cited
4. Register your code
Benefits

Unique identifier
Listing in ADS (Web of Science, Google Scholar)
Trackable citation method
Increased discoverability
How to register

Use handy online form
Email info to editor@ascl.net
Submit via CodeMeta.JSON file
1. Release your software
2. Assign a license
3. Specify how you want your software cited
4. Register your code
5. Archive your code
6. Cite other people’s codes well
7. Include a software section in articles
You can change the world!*  

Information on the resources mentioned is available at:  
https://tinyurl.com/ADASS2018-Creditforsoftware

* At least a small part of it, which is still cool!