

Abstract Submitted
for the DPP20 Meeting of
The American Physical Society

Credit Lost: The History of Software Citation in Astronomy

DAINA BOUQUIN, DANIEL CHIVVIS, Center for Astrophysics — Harvard Smithsonian — Software has been a crucial contributor to scientific progress in astronomy for decades, but practices that enable machine-actionable citations have not been consistently applied to software itself. Instead, software citation behaviors developed independently from standard publication mechanisms and policies, resulting in human-readable citations that remain hidden over time and that cannot represent the influence software has had in the field. These historical software citation behaviors need to be understood in order to improve software citation guidance and develop relevant publishing practices that fully support software authors. To this end, a 23 year retrospective analysis of software citation practices in astronomy was developed. Astronomy publications were mined for 410 aliases associated with nine software packages and analyzed to identify past practices and trends that prevent software citations from benefiting software authors.

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Date submitted: 08 Jul 2020

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