

The MESA Project

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Stars are great.

We need good models of them.

MESA is a software instrument
that models the evolution of stars.

MESA = Modules for Experiments in Stellar Astrophysics

Single and Binary stars.

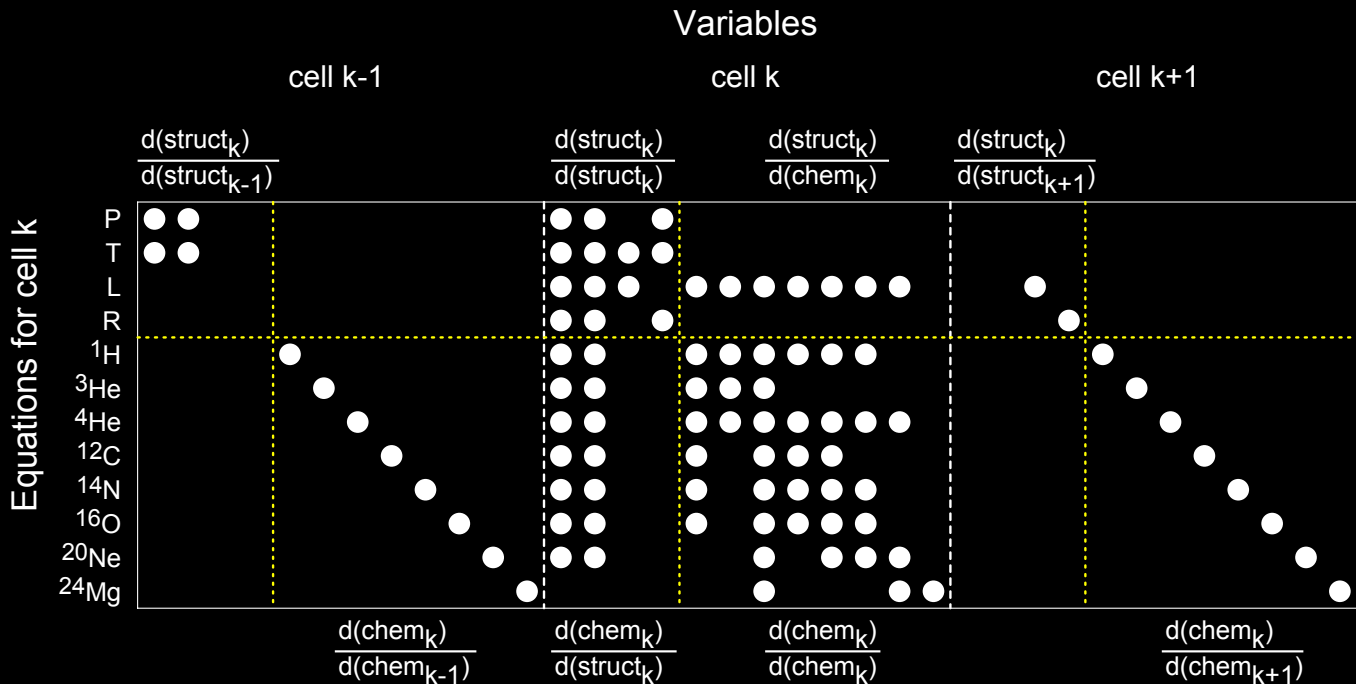
Planets too.

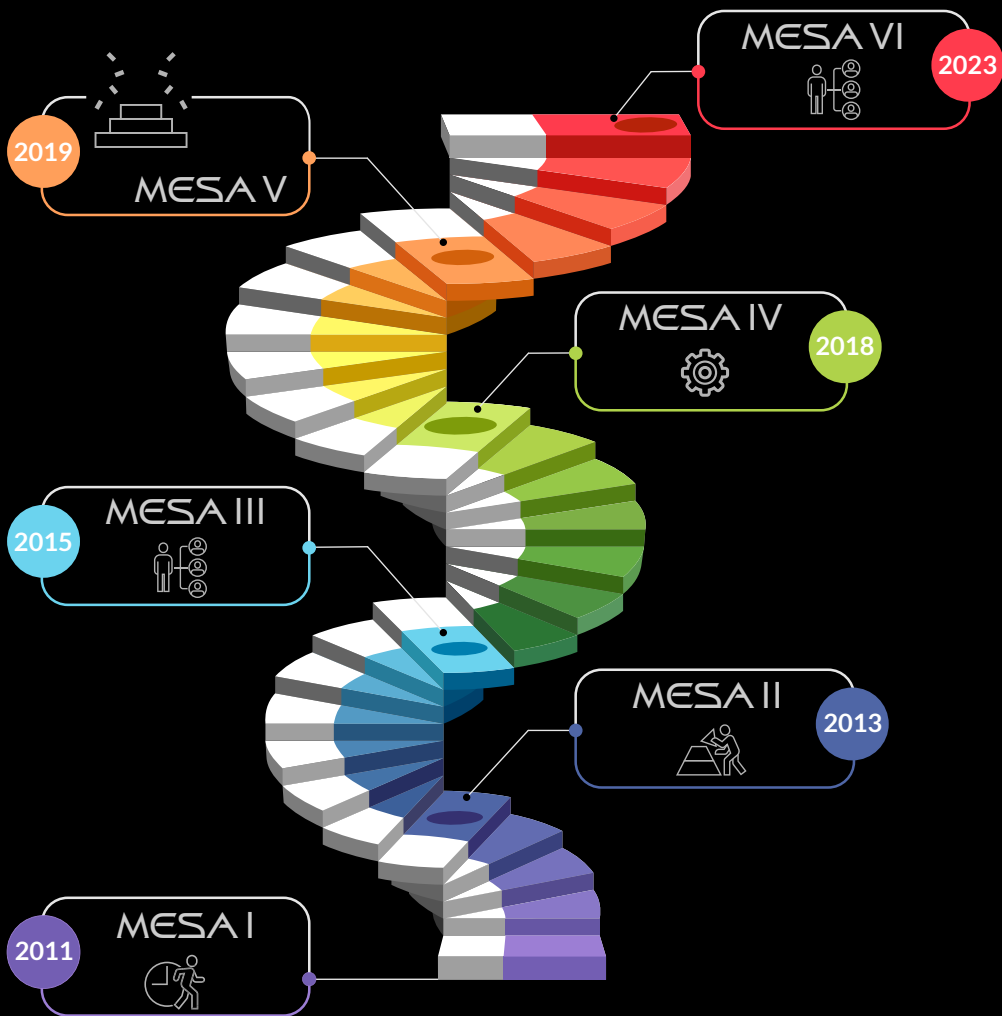
Explosions.

Pulsations.

And much more!

The *MESA* source code is a set of modules that can be used by others, or combined to solve the coupled equations of 1D stellar evolution with an implicit finite volume scheme.

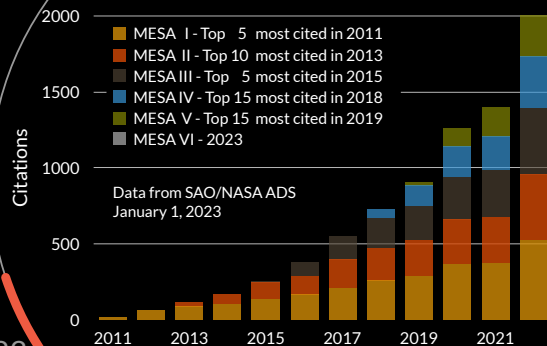




Innovation!

Larger Science Community

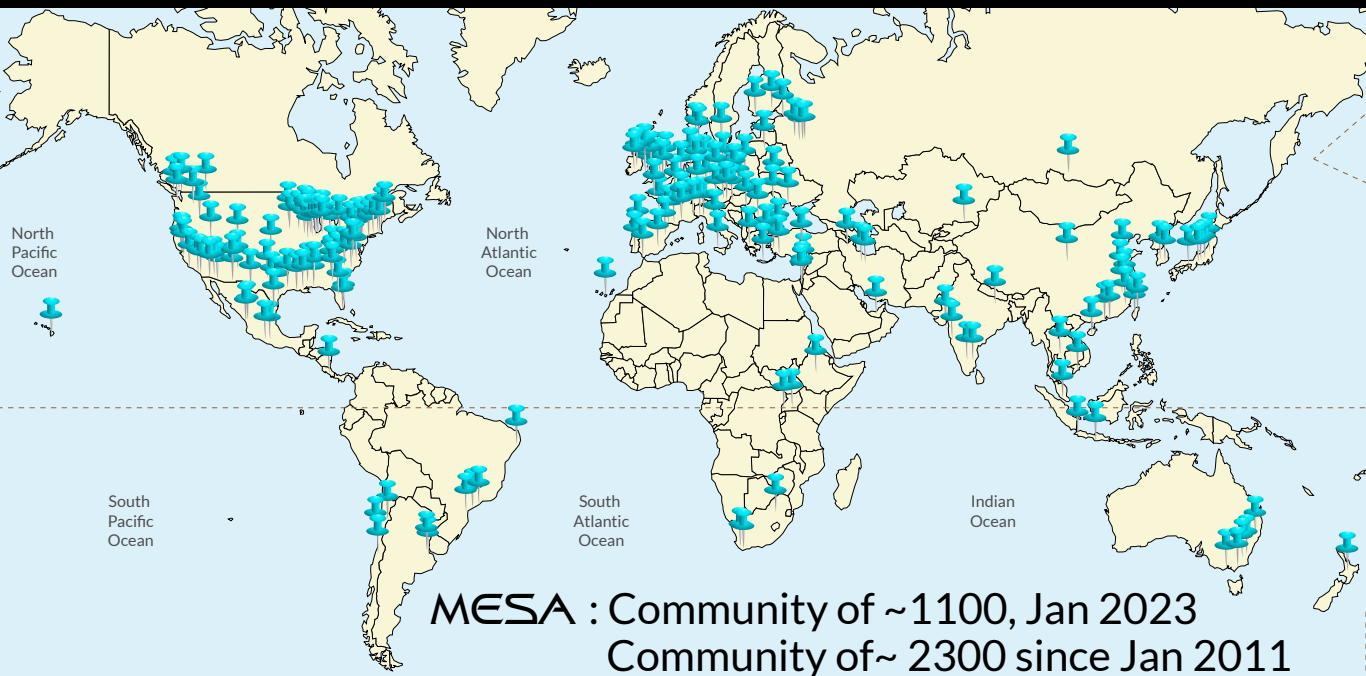
MESA



Impact
Multiplier ≈ 23

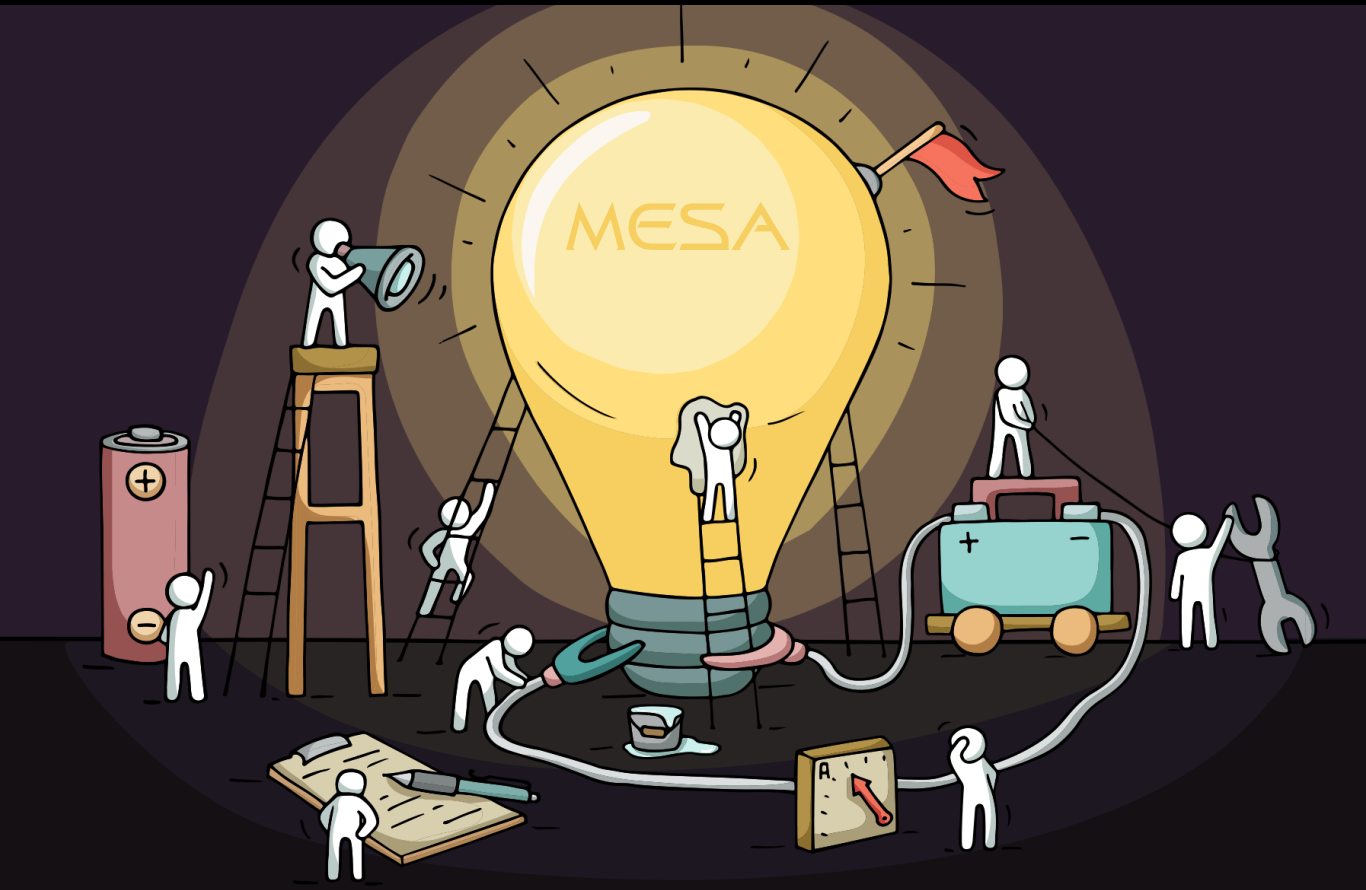
Citations: 7,886

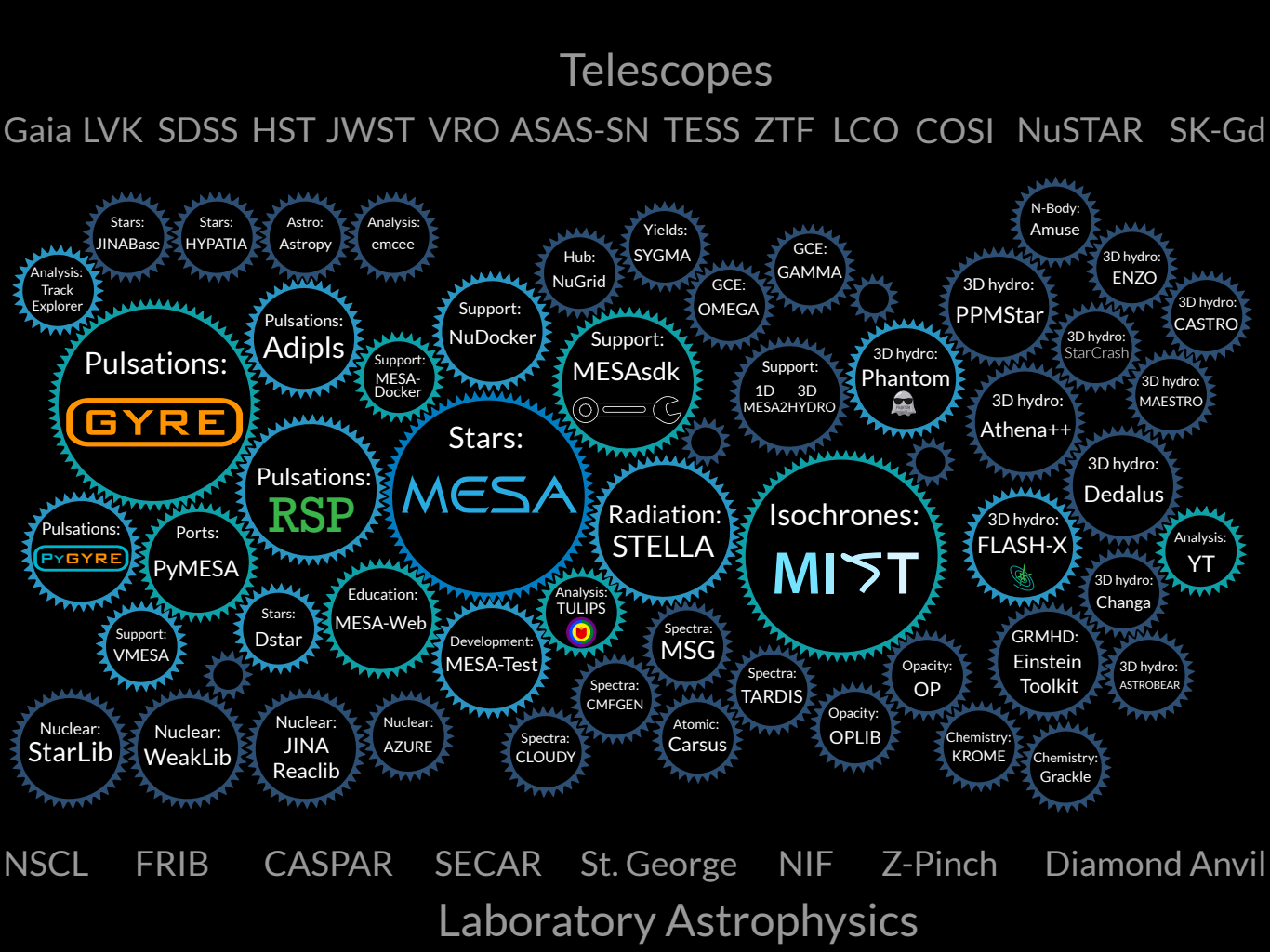
185,041 citations
to the 3,041 articles
that cite MESA



MESA has a dominant market share.

A thriving open-knowledge software project takes a village.



[illegible][illegible][illegible][illegible]



Funding cycle re-inventions

2011	\$0 - Failure	Lesson: Market community rather than source code.
2013	\$500K for 3 years NSF	Lesson: Quantify and brand all aspects of the project.
2017	\$3M for 4 years NSF	Lesson: Build an ecosystem.
2019	\$35K Ford/Sloan	Lesson: Roads and Bridges.
2023	TBD	

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