

Astrophysics modeling - data needs and codes

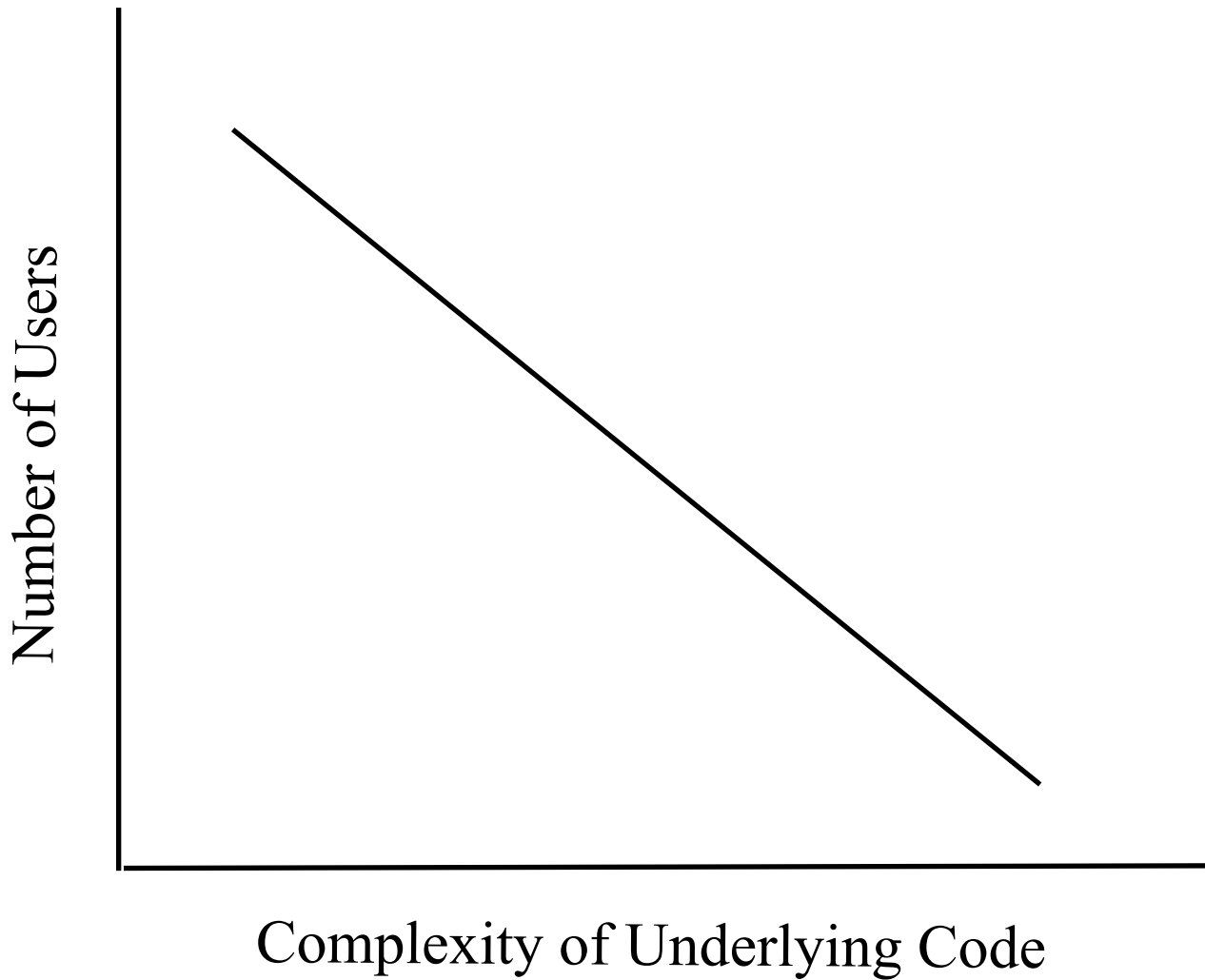
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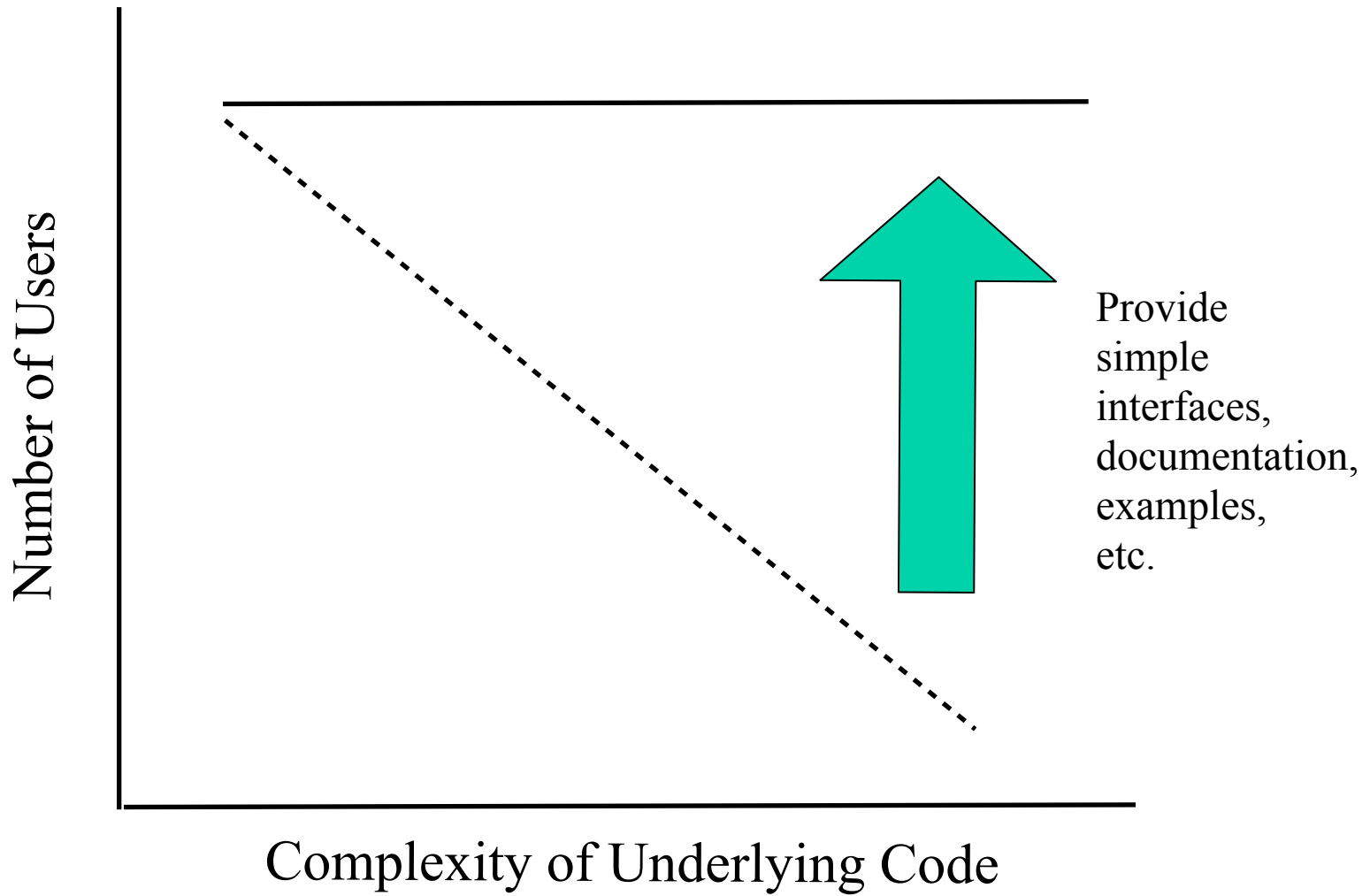
Questions

- What is needed to evaluate and transform nuclear data, astronomy data, and codes reliably and efficiently so that they can be used in nuclear astrophysics.
 - The codes should be open-source.
- What additional public codes are needed and how should one develop them?
 - Which codes is a question for the community, but I strongly suggest they be developed as open-source, free software and made available via a publicly accessible repository.

libnucnet

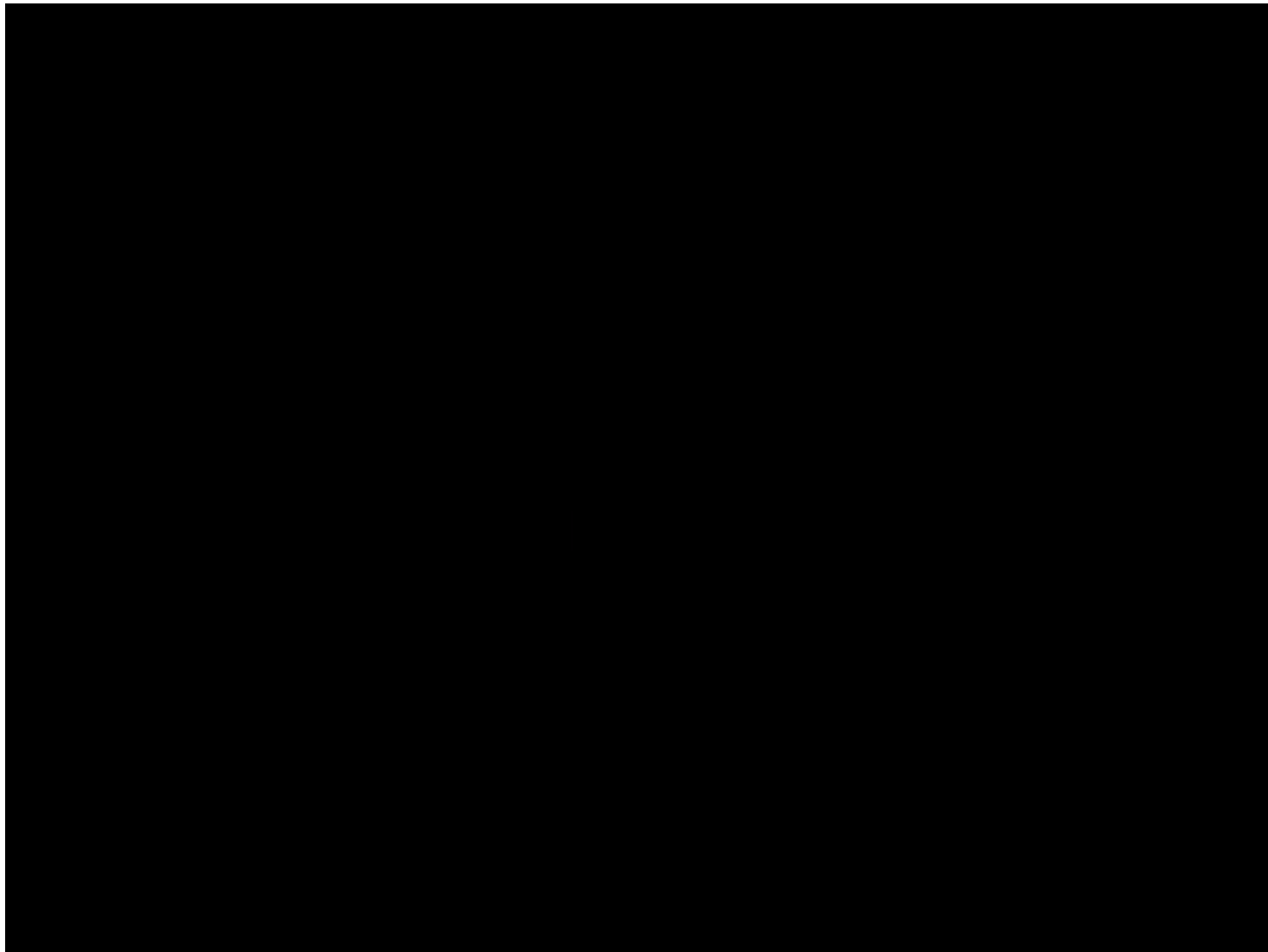
- Open-source library of codes to store and manage nuclear reaction networks released under GNU GPL
- Goal: to help streamline the implementation of new nuclear data/calculations into network models
- Uses JINA Reaclib XML format as preferred data input
- See: <http://www.webnucleo.org>
- Implemented in NucNet Tools (<http://sourceforge.net/p/nucnet-tools/home/Home>)





A Proposal

- The nuclear physics/astrophysics community should develop a nucleusHUB.org
- nucleusHUB.org would be modeled after the successful nanoHUB.org
- Built on HUBZero--a platform used to create dynamic web sites for scientific research and educational activities.
- HUBZero is open-source and is already used by >40 communities.



http://www.youtube.com/watch?v=Mr0GA_TluGY

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Example tools

<https://desktop2petascale.org/>



<http://www.youtube.com/watch?v=4ziEt0LRxEA>

Open Parks Grid

<http://www.openparksgrid.org/>

