Scientific software is crucial to modern research, but its use as a "black box" leads to wrong results. I present a new paradigm for documenting scientific software that not only addresses these issues but allows for documentation to be used as an educational tool.

Methods

- Collected user stories from an interdisciplinary audience
- Interlocked code and documentation
- Used cloud infrastructure to allow for interactively running the code

Future Work

 Expand the scope of open-source code as both a research and teaching tool from high school to graduate classrooms

Key Elements for Documenting Scientific Software:

- Interactive tutorials
- Explicit input/output documentation
- Science walkthrough

Installation

Quickstart for TARDIS

INPUT/OUTPUT

Configuration (Required Input)

Optional Inputs

Visualization Tools & Widgets

Additional Outputs

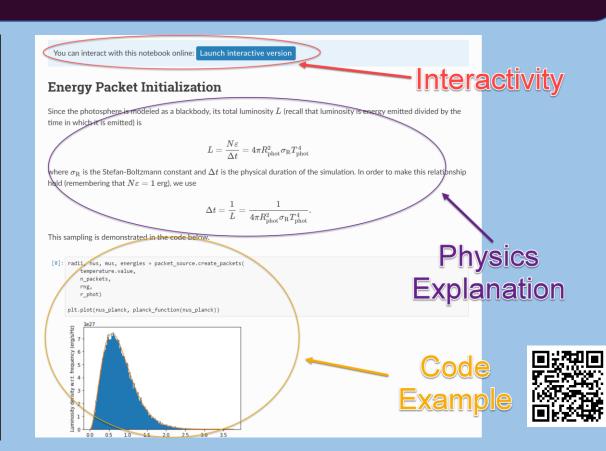
PHYSICS WALKTHROUGH

Setting Up the Simulation

Monte Carlo Iteration

Estimators and Convergence

Spectrum Generation









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Isaac Smith