TRENDS TOWARDS OPEN SOURCE

- Most highly-cited NR research in the past decade relies on at least one open-source NR-specific code

  - A significant fraction use open-source codes exclusively

- Many codes have moved to become more open:

  - ABE (closed) → IllinoisGRMHD Einstein Toolkit (open source!)

  - SPEC (closed) → SPECTRE (open source!)

- Community pressure & top-down mandates from funding agencies are helping address the under-production problem

THE NEED FOR OPEN SOURCE CODES

- Most codes developed by small teams needing timely science return: keeps work efficiently focused tangible results

- Few groups have the expertise to do everything: almost all development is incremental and relies on open codes to build atop

- Strong incentives for individual researchers to keep codes to themselves — but this would stunt the field as a whole