Binary Neutron Star Merger Disks

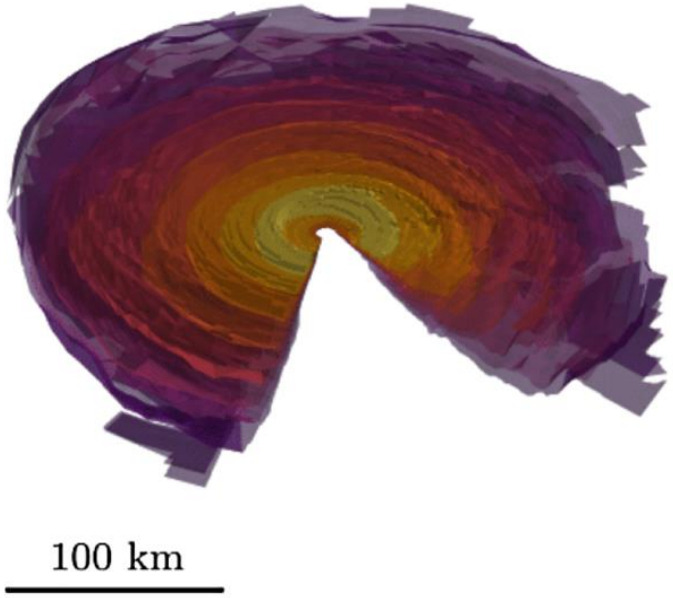
Objectives

- Understand the thermodynamic conditions of accretion disks formed in neutron star mergers

Impact

- Postmerger disks are a major site of r-process nucleosynthesis

Contact: David Radice <david.radice@psu.edu>



Camilletti et al., PRD**109**, 063023 (2024)

Accomplishments

- Performed 44 general-relativistic neutron star merger simulations with neutrinos and turbulent viscosity
- Discovered that disks' specific angular momentum, entropy, and composition depend weakly on binary properties
- Provided fits to construct realistic disk profiles for long-term post-merger simulations and nucleosynthesis studies

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