The easy-to-use TARDIS radiative transfer framework is being extended to model the Type Ia nebular phase.

Gamma-ray spectrum generated from the latest TARDIS package as part of the gamma-ray transport for nebular-phase Type Ia simulation.

Latest features
- Conda package
- Gamma-ray transport
- Arepo model parser
- Continuum interaction opacities
- GPU acceleration to solve the radiative transfer equation

Planned features
- Full NLTE rate equations (all SN)
- Non-homologous expansion (Type II)
- Parsers for additional input models (STELLA)
- Nonthermal gamma-ray energy deposition (Type Ia)
- Stellar atmosphere spectra
- 2- and 3-D simulations (all SN)

Open source, open science: Radiative transfer software to interpret time domain and multi-wavelength observations.

Recent TARDIS results
- Probabilistic Reconstruction of Type Ia Supernova SN 2002bo O’Brien+ 2021
- Modeling Type Ic Supernovae with TARDIS: Hidden Helium in SN 1994I? Williamson+ 2021
- AT2018kzr: the merger of an oxygen–neon white dwarf and a neutron star or black hole Gillanders+ 2020

Read the docs

Andrew Fullard, TARDIS collaboration

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tardis-sn.github.io

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