

Tycho's Supernova Remnant

Observation plan

We plan to perform a 75-ks observation of the "Fe knot" located at the SE corner of the SNR. We will devote another 75 ks to the central part of the SNR. To map the whole remnant, we foresee a series of 20-ks observations (accepted as priority C) targeting the N, NW, SW, S, and NE regions. No roll angle constraints are necessary for all the pointings.

Immediate objectives

- [1] Measure the ion temperatures of each element of the reverse-shocked ejecta.
- [2] Constrain the progenitor of the Type Ia explosion based on metal abundances.
- [3] Search for emission from forward-shocked ISM/CSM.
- [4] Measure the bulk velocities of each ejecta species.
- [5] Probe the spatial distribution of the ion temperature and ejecta elements by mapping the whole remnant.