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## Mechanical mesign of the thermal imaging system for the FRIB target

*Wednesday, 22 May 2024 16:00 (2 hours)*

As the Facility for Rare Isotope Beams (FRIB) ramps up to 400 kW, a thermal imaging system (TIS) is essential to monitor the beam spot on the production target. The TIS is an array of mirrors and a telescope in the target vacuum chamber; this relays the image through a window to the optics module outside the chamber. The design presented many challenges from alignment, to remote installation of the TIS and integrated shielding, and repeatable re-installation of the mirror array and optics module. The target TIS has been in operation since 2021 and supports FRIB operations for secondary beam production, with incident power up to 10 kW. The temperatures seen validate the expected temperatures from analysis. The mechanical design of the FRIB target TIS is presented here as well as initial performance.

### Footnotes

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