

eta Carinae

Observation plan

1 pointing for 100 ksec centered at the central binary system. XRISM can observe the star anytime in the available observing window as the binary is near apastron of a 5.5-year, highly eccentric orbit in 2023 ($\phi \sim 0.6$). Resolve uses no filter (open) option.

Immediate objectives

- [1] Measure the hot plasma emission line profiles to understand the shock heating mechanism of the wind-wind colliding X-ray plasma
- [2] Measure the fluorescent Fe emission line profile to understand the dynamics of the primary star wind
- [3] Measure the emission line profiles of the extended ($\sim 1'$) soft X-ray nebula surrounding eta Carinae to understand the origin of the soft diffuse X-ray nebula and its connection to the Great eruption in the 1840s, which produced the bipolar Homunculus nebula.