

The corona puzzle

Proper probe: type-I burst

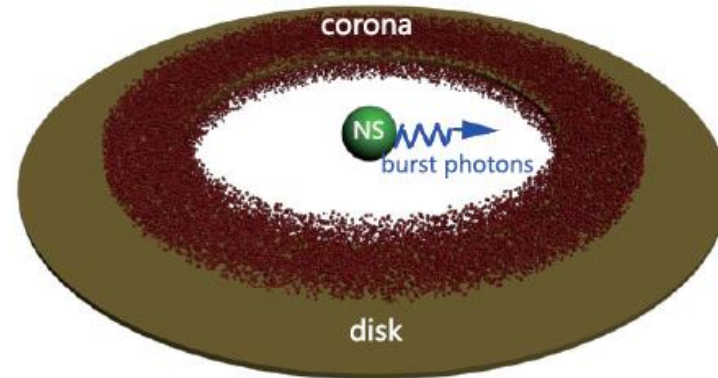
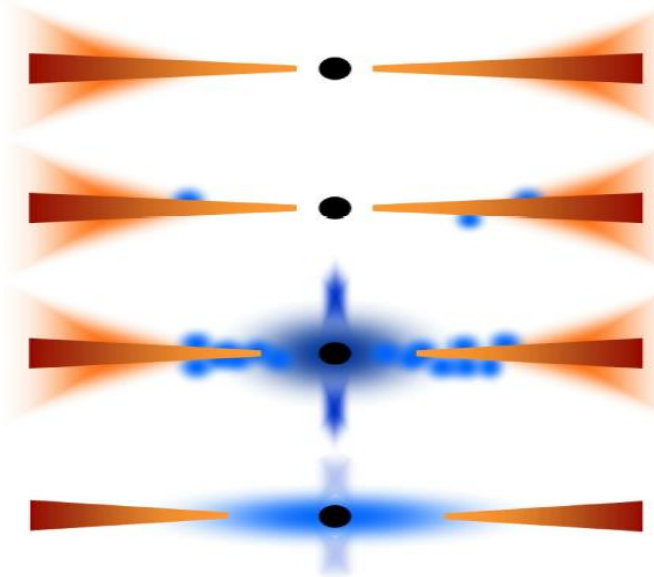
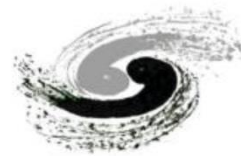
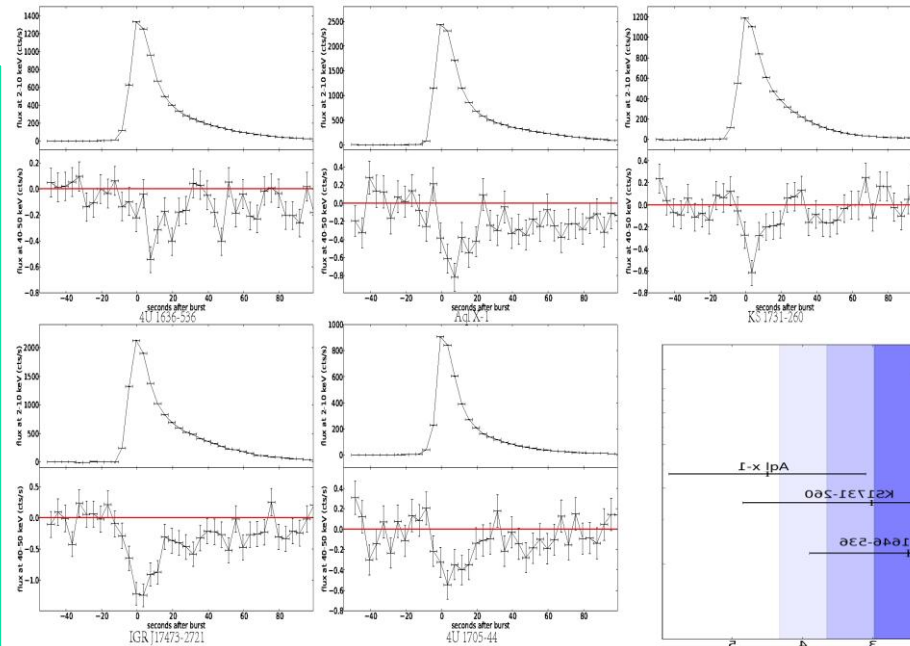


Figure 3. Illustration of the central region of an NS XRB, in which a corona is located around the disk and cooled by the soft X-rays from a type-I burst that occurred on surface of the NS.

'well known' XRB corona:
WELL used in modelling, but
less KNOWN in its nature

the formation mechanism?
Disk evaporation or magnetic re-connection
 Intrinsic dynamic time scale?
Of hours or seconds



fraction of type-I bursts
 (0.5 to 1.0)

The first refereed Insight-HXMT paper outside China

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Insight-HXMT Observations of 4U 1636-536: Corona Cooling Revealed with Single Short Type-I X-Ray Burst

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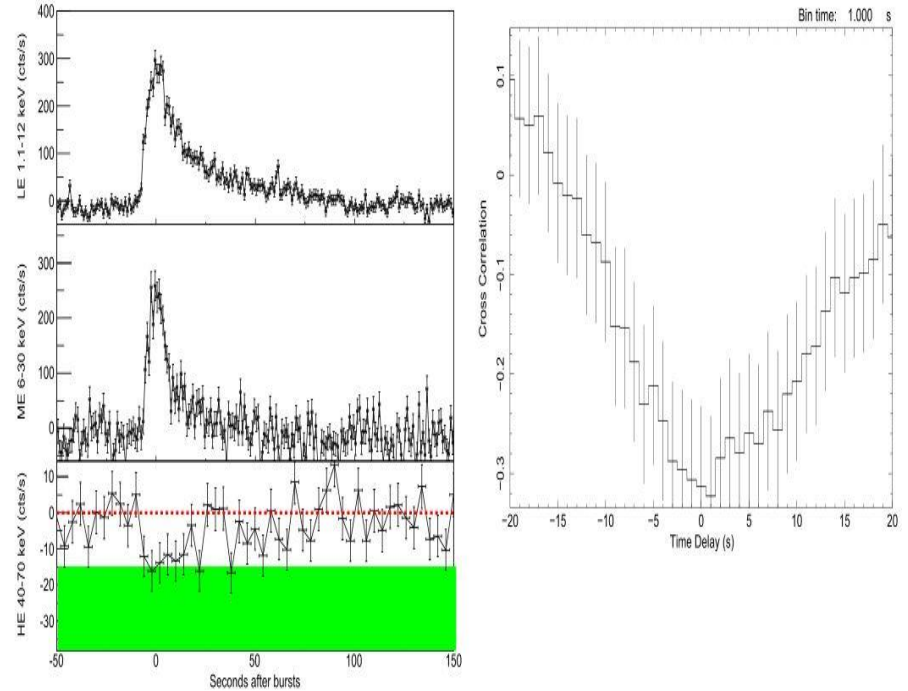


Figure 2. Left panel shows the LE, ME, and HE light curves of the burst in 1.1–12 keV, 5–30 keV, and 40–70 keV, respectively. The time bin for LE and ME is 1 s and HE is 4 s, the green zone in the bottom panel indicates the background level for HE detectors. The right panel shows the cross-correlation between the left panel's LE and HE re-extracted light curves with a time bin of 1 s.

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