

# Observations of Black hole Binaries

## Contributors

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# Black hole binaries

- Multi-wavelength Observations before and during an outburst. Anticipated TOO's
- UV and Soft x-ray Observations in addition to LAXPC will provide better estimate of Inner radius of the disc.
  - State transitions; HIDs
  - Can get a better estimate of temperature of the disc
  - Simultaneous SEDs;
- The observations to be done as anticipated/ general TOO's.
- Policy to be evolved for this.

# Black hole binaries

- A special class of transients, whose outburst remains in low hard state/reaches intermediate states only;
  - some sources show both canonical and these 'failed' outbursts, some show only LH outburst;
  - could lead to a separate model for outbursts; Irradiated disc? .
  - flux contribution by disc will be better estimated with UV and soft X-ray observations to constrain models
  - relative contribution of disc and non-thermal component can be better constrained

# Black hole binaries

- Spectral data and QPO correlations;
- QPOs - low and high frequency
- Evolution of power density spectra during the outburst and whether processes like jet ejection can be predicted; break frequency evolution
- Intensity of Fe line with spectral state(disc temperature)
- Comparative study of Black hole sources as a function of Black hole mass

# Black Hole binaries

- Energy dependent time lag -- Disc and coronal geometry
- Iron line profile with change in state and QPO frequency-- disc travelling inward (requires high spectral resolution of Fe line)
- Further observations of GRS 1915+105 –is it unique??

Thank You