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**Different manifestations of accretion onto compact objects**

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## Glossary

- **AMXPs:** Accreting millisecond X-ray pulsars (see, e.g., Chapters 3 & 4).
- **ASM:** All Sky Monitor (Levine et al. 1996). See also Section 1.2.1, page 2, for more details.
- **BH/BHC:** Black hole / Black hole candidate.
- **BLN:** Band Limited Noise.
- **BS:** Banana state, usually subdivided into LLB, LB and UB (used in the context of neutron star Atoll sources – See Figure 1.8 on page 13).
- **CD:** Color-diagram.
- **EIS:** Extreme island state (used in the context of neutron star Atoll sources – See Figure 1.8 on page 13).
- **FWHM:** Full width at half maximum.
- **GC:** Globular Cluster.
- **HEXTE:** High Energy X-ray Timing Experiment (Gruber et al. 1996; Rothschild et al. 1998). See also Section 1.2.1, page 2, for more details.
- **HBO:** Horizontal Branch Oscillation (used in the context of neutron star Z-sources).
- **HID:** Hardness-Intensity Diagram.
- **HIMS:** Hard Intermediate State (used in the context of BHC source states – See Section 1.4, page 12, and Section 8.2, page 141, for more details).
- **HMXB:** High-mass X-ray Binary.

- **HS**: High state (or 'high/soft state', used in the context of BHC source states – See Section 1.4, page 12, and Section 8.2, page 141, for more details).
- **IS**: Island state (used in the context of neutron star Atoll sources – See Figure 1.8 on page 13).
- **LB**: Lower banana (used in the context of neutron star Atoll sources' states – See Figure 1.8 on page 13).
- **LFN**: Low-frequency noise.
- **LLB**: Lower-left banana (used in the context of neutron star Atoll sources' states – See Figure 1.8 on page 13).
- **LMXB**: Low-mass X-ray Binary.
- **LS**: Low state (or 'low/hard state', used in the context of BHC source states – See Section 1.4, page 12, and Section 8.2, page 141, for more details).
- **$L_x$** : X-ray Luminosity.
- **$L_{Edd}$** : Eddington Luminosity.
- **$L_i$** : Power spectral features are usually fitted with a function consisting of one or multiple Lorentzians, each denoted as  $L_i$ , where  $i$  determines the type of component. The characteristic frequency ( $\nu_{max}$ ) of  $L_i$  is denoted  $\nu_i$ . In this thesis I use:
  - $L_u$  for upper kHz QPO.
  - $L_\ell$  for lower kHz QPO.
  - $L_{low}$  for a feature that might be the same as  $L_\ell$ , when  $\nu_\ell \lesssim 50$  Hz (see also Section 7.3.6, page 124, for more details).
  - $L_h$  for hump.
  - $L_b$  for break.
  - $L_{b2}$  for the second break.
  - $L_{LF}$  for Low Frequency QPO.
  - $L_{LF/2}$  for the subharmonic of the Low Frequency QPO (in the context of NS, see Section 6.4.2, page 94, for more details).
  - $L_{LF}^+$  or  $L_{LF}^-$  for the QPOs at higher and lower frequency than  $L_{LF}$  (in the context of BHC).

–  $L_{VLFN}$  for the Very-low frequency noise.

- $\dot{m}$ : Local accretion rate (see Chapter 2).
- $\dot{m}_{Edd}$ : Local Eddington accretion rate (see Chapter 2).
- **NS**: Neutron star.
- $\nu_0$ : centroid frequency of the Lorentzian (see also  $\nu_{max}$ ).
- $\nu_s$ : spin frequency of the neutron star.
- $\nu_{max}$ : Characteristic frequency of a Lorentzian  $L_i$ , defined as  $\nu_{max} = \sqrt{\nu_0^2 + (FWHM/2)^2} = \nu_0 \sqrt{1 + 1/4Q^2}$ . See also  $L_i$  and Belloni et al. (2002b).
- **PCA**: Proportional Counter Array (Jahoda et al. 2006). See also Section 1.2.1, page 2, for more details.
- **PCU**: Proportional Counter Unit (Jahoda et al. 2006). See also Section 1.2.1, page 2, for more details.
- **PDM**: Phase dispersion minimization technique (Stellingwerf 1978). See also Section 1.2.1, page 7, for more details.
- **Q**: Quality factor of a Lorentzian. It is defined as  $Q = \nu_0/FWHM$ .
- **QPO**: Quasi-periodic oscillation.
- **RXTE**: Rossi X-ray Timing Explorer (Jahoda et al. 2006). See also Section 1.2.1, page 2, for more details.
- **SIMS**: Soft Intermediate State (used in the context of BHC source states – See Section 1.4, page 12, and Section 8.2, page 141, for more details).
- $t_{thermal}$ : Thermal timescale is defined as  $t_{thermal} = c_p T / \epsilon$  where  $c_p$ ,  $T$  and  $\epsilon$  are the heat capacity at constant pressure, the temperature and the nuclear energy generation rate, respectively.
- $t_{accr}$ : Accretion timescale is defined as  $t_{accr} = y / \dot{m}$  where  $y$  and  $\dot{m}$  are the column density of the burning layer and local accretion rate, respectively.
- **UB**: Upper banana (used in the context of neutron star Atoll sources' states – See Figure 1.8 on page 13).

## Glossary

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- **VLFN**: Very-low frequency noise.
- $y_f$ : column depth of the fuel layer (in the context of burning of material on the neutron star surface).