

University of Groningen

## Spectral and timing properties of black-hole low-mass X-ray binaries

Alabarta Jativa, Kevin

DOI:  
[10.33612/diss.194779577](https://doi.org/10.33612/diss.194779577)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2021

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Alabarta Jativa, K. (2021). *Spectral and timing properties of black-hole low-mass X-ray binaries*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.  
<https://doi.org/10.33612/diss.194779577>

### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

### Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

# Propositions

belonging to the dissertation

## Spectral and timing properties of black-hole low-mass X-ray binaries

1. The names “failed outbursts”, “hard-state only outbursts”, and “low/hard state outbursts” do not describe precisely the phenomenology of this type of outbursts (Chapter 2).
2. Thanks to NICER coverage, we can detect the disc component of X-ray binaries until almost the end of the outburst at very low luminosities, which is not common, with temperatures down to  $\sim 0.15$  keV (Chapters 3 and 4).
3. The hard-to-soft transitions detected in MAXI J1535–575 during its re-flares occurred at the lowest luminosities ever observed in a black-hole low-mass X-ray binary (Chapter 4).
4. Outbursts and re-flares are driven by the same physical processes (Chapters 4 and 5).
5. The radiative properties of variability in black-hole low-mass X-ray binaries appear to have their origin in the corona (Chapters 3 and 5).
6. The state transitions of X-ray binaries appear to depend not only on the mass accretion rate reached by the system. Some other physical parameter has to be involved in the trigger of state transitions.
7. In science, a negative result is also a result.
8. In science, there is always a chance of learning something new, even when attempting to reproduce the same type of analysis done by other colleagues.
9. In life, it is very easy to fall, and very hard to get up.
10. Doing a PhD is like a marathon, there are moments when you are not sure whether you will finish but, when you do it and reach the end of the PhD, you feel that all the effort has been worth it.