

Acknowledgements

First of all I would like to thank my supervisors Frank Verbunt and Onno Pols for sharing with me their broad knowledge of astrophysics. I found it very useful to have two supervisors with different backgrounds, which has allowed me to convert your advice into well-considered work (or so I hope). Not only was working with you interesting in terms of science, it was also a very pleasant experience. Thank you Frank for being patient when I needed some time and for letting me work in Innsbruck whenever I felt like it.

I am also grateful to the members of the reading committee, Johan Bleeker, John Heise, Christoph Keller, Henny Lamers and GertJan Savonije. Thank you for reading the manuscript of this thesis and for your recommendations to improve it.

Thank you Peter Eggleton for allowing me to use your stellar evolution code that has been used for all of the chapters in this thesis. Because it is so fast, your code was especially useful for Chapters 2, 3 and 5, where we calculated large grids of models. Thank you Jean in 't Zand for our cooperation that led to Chapter 4 and for improving my knowledge of X-ray bursts. Thanks Gijs Nelemans for the scientific discussions we had and for your comments on Chapter 5. Thank you Sung-Chul Yoon for providing me with the \LaTeX template of your thesis, which has made it much easier to convert the articles into this book.

Many thanks to Marion Wijburg for helping with the administrative part that comes with research and for being the solution to sometimes seemingly hopeless problems. Thanks Ed van der Zalm and Sake Hogeveen for the computer support that makes our lives so much easier. Thanks to many other people at the Astronomical Institute in Utrecht for the pleasant working atmosphere.

'Klop!' to the true Massive Nate Bastian and 'tot sinas' to Guillaume-Jean LeBlanc and his Magellanic Clouds for willing to be my paronymphomaniacs, a.k.a. 'paranichten'. I am very grateful and I hope I'll be all right after the defense. Nate, thanks for being around when needed.

I am grateful to a number of people in Austria. For (the arrangement of) housing, thanks Judith, Stefanie, Paul, Arntraud, Giovanna, Kathi and Harald. For arranging room to work at the University of Innsbruck, thank you Mr. Hartl, Stefan Kimeswenger, Sabine Schindler and Mr. Weinberger. You all helped Birgit and me to spend lots of time together in Innsbruck.

Thank you very much Daphny for supporting me in starting my PhD research. I had hoped that the promise of taking care of each other for life would have turned out to be more of a challenge. I am very grateful for the years we have spent together and I will cherish the memories for the rest of my life.

Many thanks to my parents, Frank and Susanne and the rest of my family for your presence and support when I needed them. Thank you for inviting me for dinner so often that I didn't have to cook for several weeks in a row and for all your patient listening.

Thank you very much Birgit for your understanding and patience with me. You made the sun¹ shine again after a difficult period. Thank you also for supporting me in my work, which would have been a lot less fun without you. I am very happy that we can continue to share our lives.

Thank you Pink Floyd for your great music, and for providing us with the meaning of life:

*All that you touch, all that you see,
all that you taste, all you feel.*

*All that you love, all that you hate,
all you distrust, all you save.*

*All that you give, all that you deal,
all that you buy, beg, borrow or steal.*

*All you create, all you destroy,
all that you do, all that you say.*

*All that you eat, and everyone you meet,
all that you slight, and everyone you fight.*

*All that is now, all that is gone,
all that's to come,
and everything under the sun is in tune,
but the sun is eclipsed by the moon.*

¹ See the bottom of page 139