

Preface

The book you hold serves as a handbook useful for graduate students and astronomers in their early career who wish to have a quick introduction to the concepts of the interstellar medium, nebulae, and triggered star formation. The present work is neither a textbook nor an overview. The aim is to provide some key work for the reader with the necessary updates in the field. At the same time particular effort has been paid toward an outreach type of presentation for the majority of the topics covered. Following that way of thinking and in order to bring the reader a step closer to the subject of nebulae, images taken from one of the world's most talented astronomy photographers, Kallias Ioannidis, have been used. The photographs you see in the book consist a fraction of the astounding gallery that Kallias Ioannidis holds. All of the images presented have been taken from various parts in Greece including Grevena, Thessaloníki, Kavala, and the beautiful island of Thassos.

The text is divided into four main chapters, while the fifth one summarizes the entire book. The first chapter discusses the interstellar medium, its properties, and its chemistry. The second chapter is dedicated to the characteristics and the dynamical evolution of nebulae. The third chapter discusses the concept of triggered star formation, while the fourth one serves as short introduction to computational astrophysics presenting examples of expanding nebulae. The reader should be aware that computational astrophysics is a subject that evolves rapidly, and consequently the literature is updated extremely frequently (approximately on a weekly basis).

At this point I would like to thank various colleagues with who I had interesting discussions for many aspects of that book. I would like to thank Thomas Haworth, Serena Viti, Padelis Papadopoulos, Mike Barlow, Jeremy Yates, Patrick Owen, Jonathan Mackey, and Robin Williams. Special thanks go to my Ph.D. supervisor Anthony Whitworth who was the first to introduce me to computational astrophysics and also to my colleagues Richard Wünsch, Jan Palouš, Stefanie Walch, David Hubber, Dimitris Stamatellos, and Jim Dale. Thanks also go to various other people:

Dimitra Strongylou, Panagiotis Kotsios, Elena Bacharopoulou, Areti Malkogianni, Anti Nalmpanti, Christophoros Tsantoulas, Antonios Makrymallis, Vasileia Filidou, Angelos Tsiaras, Dimitris and Maria Miroti, Kostas Tziotziou, Dionisis Chandolias, Lazaros Voulgaris, Maria Cvorkov, and Giannis Orkopoulos.

My deepest thanks go to my parents George and Xanthi, my siblings Anna and Elias, my grandparents Elias and Elli, and to Panos for their love and support throughout my entire career. Without them this book would not have been possible.

London, UK
September 2015

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The Interstellar Medium, Expanding Nebulae and
Triggered Star Formation

Theory and Simulations

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2016, XI, 71 p. 22 illus., 15 illus. in color., Softcover

ISBN: 978-3-319-26140-9