Gravitational Radiation, Luminous Black Holes, and Gamma-Ray Burst Supernova, *Maurice H.P.M. van Putten,* 2006, pp: 308, ISBN 0521849608 (hc); Price: US$120.

As the title states, this is a book about gravitational radiation, luminous black holes, and gamma-ray burst supernova. The book is based on a graduate course taught by the author, and would be suitable for such a course. The book has a review of general relativity needed for understanding the details of the topics in the book, however the review is too terse for someone who has not already had a course in general relativity. The book does have ample references to other books on general relativity that a motivated graduate student could pursue.

"Gravitational Radiation, Luminous Black Holes, and Gamma-Ray Burst Supernova" contains 17 chapters, and six appendices. At the end of each chapter several exercises for the student have been included. The first few chapters review general relativity, which is quite a technical mathematical read, but includes interesting observations of relativistic objects such as quasar 3C273, and a black hole in Sgr A*. The book goes on to present gravitational radiation, cosmology, compressible fluid dynamics, and waves in relativistic hydrodynamics. The last few chapters are the most enjoyable for an experimentalist because of the interesting expositions on gamma-ray bursts, Kerr black holes, luminous torus around black holes, and their possible observation with the experiments LIGO and Virgo.

The author, Maurice H.P.M. van Putten, is a theoretical astrophysicist at MIT, who has not lost touch with requirements for experimental verification of theories. His research is in numerical relativity of black holes, and their relation to gamma-ray bursts. He also does experimental work in fluid dynamics, and measures μK variations in temperature at room temperatures. This book is clearly motivated by his research, and he is clearly a qualified writer on the topics presented. This book is a good reference for advanced graduate students interested in astrophysics.

Blair Jamieson
Postdoctoral Research Associate
University of British Columbia