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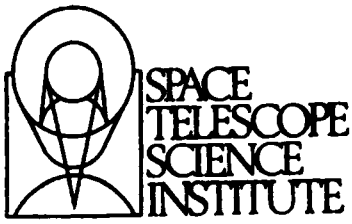
SUPERNOVAE AND GAMMA-RAY BURSTS: THE GREATEST EXPOSIONS SINCE THE BIG BANG

Recent observations have uncovered that gamma-ray bursts of relatively long durations are at cosmological distances in star-forming galaxies. The detection of X-Ray, optical, and radio afterglows to gamma-ray bursts has literally revolutionized the understanding of these enigmatic events. Since the dramatic discovery that the supernova SN 1998bw coincided in position and time with a gamma-ray burst, the possibility was raised that these two types of spectacular explosions are related. This timely volume presents articles by a host of world experts who gathered together for an international conference at the Space Telescope Science Institute. This was the first meeting in which the communities of supernova researchers and gamma-ray burst researchers were brought together to share ideas. The contributions review the mechanisms for these explosive events, the possible connections between them, and their relevance for cosmology. Both observations and theoretical developments are covered. This book will be an invaluable source of information for both active researchers and graduate students in this exciting area of research.



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The greatest explosions since the Big Bang

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Preface

The Space Telescope Science Institute Symposium on "The Greatest Explosions Since the Big Bang" took place during 3–6 May 1999. An attempt was made to bring together for the first time researchers working on supernovae and on gamma-ray bursts. We strongly feel that a symbiosis between these two groups is obsolutely necessary for the understanding of these most energetic phenomena.

These proceedings respresent a part of the invited talks that were presented at the symposium. We thank the contributing authors for preparing their papers.

We thank Sharon Toolan of ST ScI for her help in preparing this volume for publication.

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May, 1999