

Astrophysics of Red Supergiants

Emily M Levesque

Astrophysics of Red Supergiants is the first book of its kind devoted to our current knowledge of red supergiant stars, a key evolutionary phase that is critical to our larger understanding of massive stars. Red supergiants occupy a unique niche in massive stellar evolution as extremely large and cool stars, the progenitors of core-collapse supernovae, and potential probes of extragalactic stellar populations. As a result, these stars have enormous relevance to a broad range of current fields as well as the next generation of observing facilities.

The book provides a comprehensive overview of the fundamental physical properties of red supergiants, their evolution, and their extragalactic and cosmological applications. It serves as a reference for researchers from a broad range of fields (including stellar astrophysics, supernovae, and high-redshift galaxies) who are interested in red supergiants as extreme stages of stellar evolution, dust producers, supernova progenitors, extragalactic metallicity indicators, members of massive binaries and mergers, or simply as compelling objects in their own right. The book is accessible to a range of experience levels, from graduate students up to senior researchers.

About the Author

Emily Levesque is an Assistant Professor of Astronomy at the University of Washington in Seattle. Her research accolades include a 2017 Alfred P Sloan fellowship in physics and the 2014 Annie Jump Cannon research prize from the American Astronomical Society. She was both an Einstein and Hubble postdoctoral fellow at the University of Colorado, and received her PhD in astronomy from the University of Hawaii and her SB in physics from the Massachusetts Institute of Technology.



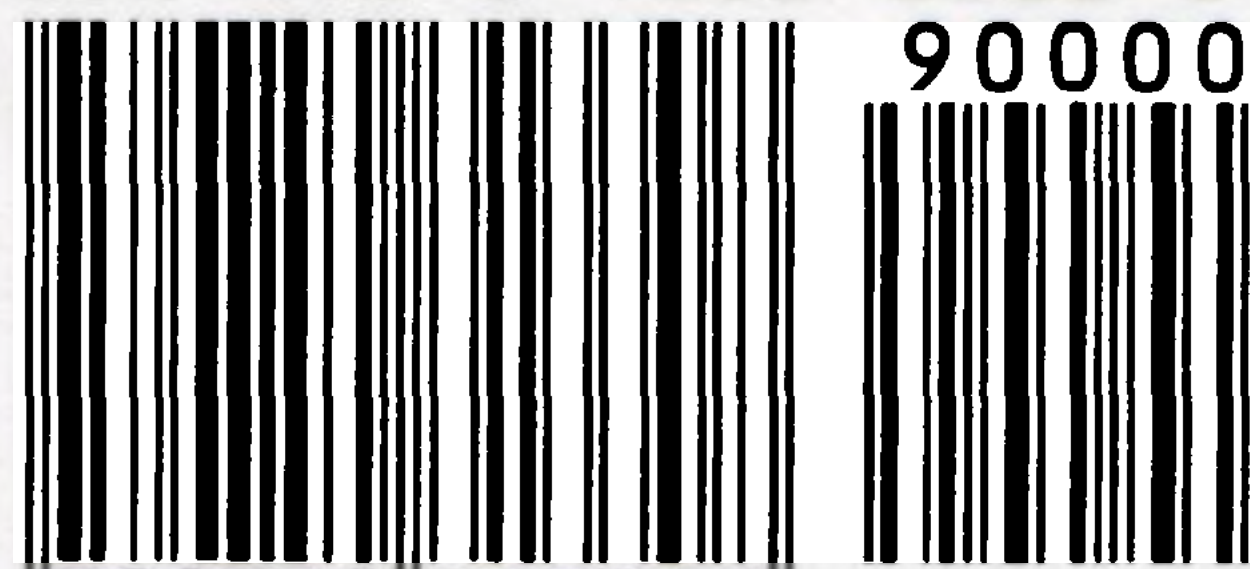
Stars and stellar physics



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ISBN 978-0-7503-1330-8



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Cover image: An illustration of one of the most massive star clusters within our Milky Way Galaxy. The cluster is ablaze with the glow of 14 rare red supergiant stars. Image credit: NASA, ESA and A. Schaller (for STScI)