

Special Issue

The Red Supergiants: Crucial Signposts for the Fate of Massive Stars

Message from the Guest Editor

The majority of massive stars, typically 9 to about 40 solar masses, will pass through the red supergiant stage. Red supergiants have long been considered the end product of stellar evolution for stars in this mass range with a terminal explosion as a Type II supernova. They were often dismissed as generally well-understood, in comparison with the more massive hot stars and their strong stellar winds. But studies of SN progenitors in other galaxies have now brought into question the terminal state of the most luminous red supergiants. The final fate of red supergiants may depend on several factors. The most prominent may be their mass loss histories, but the mass loss mechanism for these largest stars is still debated. The recent “great dimming” of Betelgeuse demonstrated the significance of gaseous outflows from active regions on its surface. Similar phenomena are observed in red hypergiants, such as VY CMa with its history of episodic high mass loss events. This volume will focus on recent research on red supergiants, their properties, mass loss rates, mass loss mechanisms, the role of surface activity, and questions about their evolutionary state.

Guest Editor

Prof. Dr. Roberta M. Humphreys
School of Physics and Astronomy, University of Minnesota,
Minneapolis, MN 55455, USA

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
galaxies@mdpi.com

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Message from the Editorial Board

Galaxies provides an advanced forum for studies related to astronomy, astrophysics, and cosmology, including all of their subfields. Different formats, such as specialized research articles, reviews, communications and technical notes are welcomed. Manuscripts containing original and creative research proposals and ideas are especially appreciated.

We encourage scientists to publish their astronomical observations and theoretical results in as much detail as possible. There is no restriction on the paper length and full experimental and methodological details, as applicable, should be provided. All papers will be peer reviewed promptly. On behalf of the distinguished members of the editorial board, I extend my welcome to all researchers working on these subjects to contribute to *Galaxies*.

Editors-in-Chief

Dr. Margo Aller

Department of Astronomy, University of Michigan, Ann Arbor, MI 48109-1042, USA

Dr. Jose L. Gómez

Instituto de Astrofísica de Andalucía (IAA-CSIC), Glorieta de la Astronomía S/N, 18008 Granada, Spain

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