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Atmospheres of Cool Evolved Stars

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Deadline for manuscript submissions:
closed (31 January 2022)

Message from the Guest Editors

Cool evolved stars are an important source of chemical enrichment of the interstellar medium, and understanding their atmospheres offers a unique opportunity to comprehend their mass loss, and therefore to study the cycle of matter in the universe. The purpose of this Special Issue is to provide recent observational constraints and new theoretical advancements on the investigation of the atmospheres of cool evolved stars, by means of red giant branch (RGB), asymptotic giant branch (AGB), and red super giant (RSG) stars.

This Special Issue aims to showcase the most recent evidence on observational and theoretical breakthroughs in the investigations of cool evolved stars. Topics of interest for this Special Issue include, but are not limited to:

- Theoretical advancements on the atmospheres of cool evolved stars;
- Observational constraints on photospheres, chromospheres, circumstellar envelopes, and winds of evolved stars;
- Spatially resolved observations of atmospheres;
- The physics and chemistry of molecule and dust formation;
- The effects of pulsation and convection;
- The role of electro-magnetic forces.

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Message from the Editor-in-Chief

Continued developments in instrumentation and modeling have driven atmospheric science to become increasingly more complex with a deeper understanding of concepts, mechanisms, and interactions. This is the field that innovation built and it has led to a better appreciation for the complexity with atmosphere. Human life is intertwined in this complexity as we strive to better understand our atmosphere. Climate change is constantly stretching the limits of our thinking and forcing new ideas and concepts to be played out. Welcome to the Anthropocene!

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