



Galaxies

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Stellar Spectroscopy, Molecular Astronomy and Atomic Astronomy

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In the current era of Gaia, large-scale spectroscopic surveys such as Gaia-ESO, APOGEE, GALAH, and LAMOST have collected millions of stellar spectra with varying resolutions and signal-to-noise ratios. This wealth of data represents the most extensive repository of kinematic and chemical information about stars within the Milky Way. The confluence of comprehensive spectral analysis techniques, including line-by-line differential analysis, coupled with advancements in modeling stellar atmospheres and the determination of accurate molecular and atomic line data, has propelled cutting-edge research in both theoretical and observational astrophysics—from the study of our galaxy to the study of exoplanets. The primary objective of this Special Issue is to establish a comprehensive platform for the exploration of novel ideas and the in-depth discussion of a diverse array of pertinent topics within the realms of stellar spectroscopy, molecular astronomy, and atomic astronomy. By facilitating the convergence of contributions from researchers and experts across the globe in these interconnected disciplines, this Special Issue aims to nurture collaboration and propel the collective advancement of knowledge in the dynamic fields of stellar spectroscopy, molecular astronomy, and atomic astronomy.



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