Stellar Population Synthesis

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Abstract

Population synthesis models aim to reproduce the spectral energy distributions of stellar systems ranging from single clusters to entire massive galaxies. Model atmospheres play a crucial role in realistic models, as empirical spectral libraries are often incomplete and/or cover limited wavelength ranges. The goal of the modeling is to learn about structural parameters, star-formation histories, chemical evolution, and more. I will discuss recent results and current challenges. The emphasis will be on stellar aspects but some processes related to the interstellar medium will be covered as well.

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