Astrophysics Lab Report

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Abstract

This report presents an astrophysical investigation utilizing multi-wavelength photometric techniques to study distant galaxies. Fundamental concepts such as spectral energy distributions (SEDs), photometric redshift estimation, and galaxy classification based on broadband photometry are explored. The experiment relies on theoretical foundations, including the cosmological redshift phenomenon, blackbody radiation models, and stellar population synthesis, to interpret observational data. The methodology integrates theoretical models with observed magnitudes, enabling inference about galaxy properties that are otherwise inaccessible due to observational constraints. This approach highlights the significance of multi-band photometry as a powerful tool for probing galaxy evolution and cosmological parameters.

1 Introduction