

DIAGNOSTICS FOR COMPOSITE GALACTIC SPECTRA IN HII GALAXIES

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Galactic spectra are often compared to Single Stellar Populations (SSPs) to determine 'characteristic' ages and metallicities, therefore to be called SSP-equivalents age or metallicity. This is in particular often the case when line-strength indices, like those of the Lick system, are used to analyse them. In fact, both physical arguments and detailed analysis of spectra plead for an extended star formation history, and in general SSP-equivalent ages younger than several Gyr are interpreted as evidence for the 'presence of a young population'.

In this note we search the purely observational indices indicating that a medium-resolution optical range galactic spectrum is not well modelled with a SSP. To address this question, we select a sample of (non-AGN) emission line galaxies, we analyse their spectra using full spectrum fitting and we identify the main misfits.