

SPECTROPHOTOMETRIC POPULATION SYNTHESIS OF EARLY TYPE GALAXIES

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We have developed a new stellar population synthesis model for calculating colours and absorption line indices in early type galaxies. This model can work either for single-age stellar populations or in an evolutionary scheme following the chemical evolution. The model is based on the isochrones of the Padova group and we have developed our own method of conversion to colours. Details can be found in Vazdekis A., Casuso E., Peletier R. & Beckman J. (submitted, 1995). To test the model we have obtained accurate observations in many colours and line indices of the three standard galaxies: NGC 3379, NGC 4472 and NGC 4594.

In general we can find reasonably solutions for the galaxies, with $Z > Z_{\odot}$ (Casuso *et al.*, ApJ. 1995, In Press.) Fits are good for most colours and absorption line indices except for those of Fe and Ca. Including α -enhancement improves the fit for Fe, but worsens the fit for the NaD index. For an evolutionary scheme with a single constant IMF slope, in a closed-box approximation, the Mg₂ index from the models always falls short of the observed values (Vazdekis *et al.* (1995). Finally, we obtain much better fits if we introduce a significant change in the IMF slope, favouring massive stars in the early stages of galactic evolution, and low-mass stars for the remaining time.