

Population synthesis models in 2D/3D: some rules

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Abstract

Population synthesis models are a tool extensively used to make inferences about the evolutionary status of stellar populations. In this work I examine the implicit priors assumed to obtain inferences by comparing observational data with populations synthesis models. As a result from this kind of study, I show how a higher spatial resolution can be used to obtain better *global* (but not spatially detailed) properties of the system. I also show that a pixel-by-pixel (or IFU by IFU) analysis would provide biased results unless they take into account the correlations of stellar populations between different resolution elements (pixels or IFUs) and a prior hypothesis on the projected stellar mass distribution (equivalent to a prior hypothesis on the star formation history)

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