[GC29] EARLY-TYPE GALAXIES' RADIAL METALLICITY GRADIENT AND ITS EFFECT ON THE FUNDAMENTAL PLANE

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Most early-type galaxies show the internal radial gradient of metallicity - higher metallicity towards the galaxy center. As evident from observations, there is a systematic variation in terms of the radial metallicity slopes and its zero-points as a function of galaxy luminosities (masses). We hypothesize that such a systematic variation may have an influence both on the size of galaxies' half-light radii and the mass-to-light ratio of their stellar population and, in turn, on their location on Fundamental Plane. In this poster, we test the hypothesis via stellar population simulations and present our preliminary yet interesting result on the possible origin of the tilt and scatter of the Fundamental Plane. This work was supported by the Korea Research Foundation Grant funded by the Korean Government (KRF-2006-331-C00134)

[GC30] Yonsei Evolutionary Population Synthesis (YEPS) Model

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Here we present a new version of the Yonsei Evolutionary Population Synthesis (YEPS) model for simple stellar populations based on the most up-to-date Yonsei stellar evolutionary tracks. We have calculated the integrated spectrophotometric quantities such as absorption features (mostly the Lick indices) and broad-band magnitudes ranging from far-UV to near-IR. Special care has been taken to incorporate the systematic variation in horizontal-branch temperature as functions of varied parameters including metallicity, the abundance mixture, and age. A detailed comparison with globular clusters in the Milky Way and external galaxies is also presented. We discuss wide application of the YEPS model with a particular interest in interpreting the distributions of colors and metal-lines of extragalactic globular clusters. This work was supported by the Korea Research Foundation Grant funded by the Korean Government (KRF-2006-331-C00134).