Radial variation of color distributions of globular clusters within individual galaxies

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The colors of globular clusters in most large early-type galaxies are bimodal. Yoon, Yi, & Lee (2006) present a theoretical metallicity-color relationship that has a significant inflection and show that such a relation can produce bimodal color distributions even when the underlying metallicity distribution is unimodal. We here apply this hypothesis to the radial variation of cluster color distributions within individual galaxies. We show that the observed peak colors and the number ratio of blue and red clusters as a function of radial distance can be a natural consequence of the higher mean metallicity of clusters toward the galaxy center. The implication regarding galaxy halo formation history will be discussed.