
GALEX Observations for the Look-back Time Evolution of Far-UV Flux from Elliptical Galaxies

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In order to investigate the origin of the far-UV (FUV) flux from the early-type galaxies, GALEX (Galaxy Evolution Explorer) is currently observing elliptical rich clusters at moderate redshifts ($z < 0.2$) where the dominant FUV source is predicted to be hot horizontal-branch (HB) stars and their post-HB progeny. Here we present our first result for the early-type galaxies in Abell 2670 at $z = 0.076$. Compared to NGC 1399, a nearby giant elliptical galaxy in the Fornax cluster, it appears that the rest-frame (FUV - V) color of the giant ellipticals gets redder by ~ 0.7 mag at the distance of Abell 2670 ($z = 0.076$; look-back time ≈ 1.0 Gyr). Although a detailed comparison with the models is postponed until more cluster data are accumulated, it is interesting to note that this value is consistent with the variation predicted by the population synthesis models where the mean temperature of HB stars declines rapidly with increasing look-back time.