

Young stars in nearby early-type galaxies: The GALEX-SAURON perspective

Hyunjin Jeong¹, Sukyoung K. Yi², Martin Bureau³
and Roger L. Davies³

¹Korea Astronomy and Space Science Institute, Daejeon 305-348, Korea
email: hyunjin@kasi.re.kr

²Department of Astronomy, Yonsei University, Seoul 120-749, Korea

³Sub-Department of Astrophysics, University of Oxford, Oxford OX1 3RH, UK

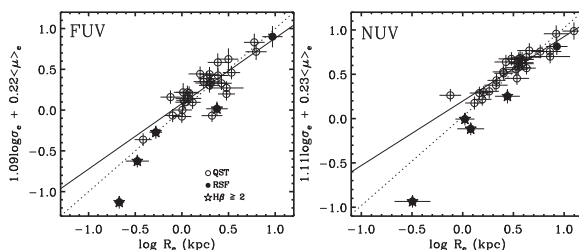


Figure 1. Fundamental Planes in the FUV and NUV bands. Using the empirical criterion ($\text{NUV}-V=5.0$), we divided the sample into quiescent (QST; open symbols) early-type galaxies and recent star formation (RSF, filled symbols) galaxies. Linear fits to the two subsamples (whole sample, quiescent galaxies only) are also shown as dotted and solid lines, respectively.

Recent studies from the Galaxy Evolution Explore (GALEX) ultraviolet (UV) data reveal that the recent star formation is more common in early-type galaxies (ETGs) that we used to believe (Jeong *et al.* 2007). Here we used the unique GALEX UV data on existing SAURON IFU-studied galaxies and combined these two datasets (UV and IFU) to find where photometric anomalies occur. One of the highlights of our study is the work on the Fundamental Plane (FP). The tilt and scatter found in optical FPs have been an issue. From our sample of 34 ETGs, we found that most of the tilt and scatter are caused by the minority ETGs which have been forming stars recently at very low level (see figure 1). Using our UV FPs, we found a strong evidence for star formation history being the main source of the mystery (Jeong *et al.* 2009).

References

- Jeong, H., Bureau, M., Yi, S. K., Krajinovic D., & Davies, R. L. 2007, *MNRAS* 376, 1021
Jeong, H., *et al.* 2009, *MNRAS* 398, 2028