

[GC09] Formation and Maintenance of Galactic Warps in Triaxial Haloes

Myoungwon Jeon<sup>1</sup>, Sungsoo S. Kim<sup>1</sup>, Ann, H. B.<sup>2</sup>

<sup>1</sup>*Kyung Hee University*, <sup>2</sup>*Pusan National University*

We investigate the time evolution of warped discs in the triaxial haloes using N-body simulations. Triaxial haloes were represented by fixed external potentials in which self-gravitating discs were embedded. The density distributions of the haloes were modeled by triaxial modification of Hernquist models. We find the warped configurations in the triaxial haloes, and that the shape and persistence of warps depend sensitively on the halo triaxiality. Our simulation results are in agreement with those predicted by simple analytical models. We attribute the development of warps to the torque between a halo and a disc and that between the inner and outer regions of the disc.

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[GC10] Effects of large and small-scale environments on Galaxy Properties

Changbom Park, Yun-Young Choi

*고등과학원 물리학부*

We have studied the effects of environments on the physical properties of the SDSS galaxies. To disentangle the effects of the close neighbors from that of the large scale density background we use the distance to the closest neighbor and the Spline-kernel smoothed local density characterizing the small and large scale environments, respectively. We have found that the density smoothed at about 4.7 Mpc/h scale has a strong control on the luminosity and morphology as well as other physical parameters. On the other hand, the nearest neighbor distance is very important when it is less than 30kpc/h, and weakly affects various physical parameters out to few 100 kpc/h. Spiral galaxies with a heavier companion show a sensitive dependence on the nearest neighbor distance. The effects of the neighbor distance starts to be visible at shorter (few  $\times$  10kpc) separations for color, color gradient, and star formation rate parameters, but at larger (few  $\times$  100 kpc) separations for structural parameters like luminosity, concentrational index, and velocity dispersion.