Morphological Classification of Galaxies in the Hubble Deep Field South

Narae Hwang and Myung Gyoon Lee

Department of Astronomy, Seoul National University

Email: nhwang@astro.snu.ac.kr, mglee@astrog.snu.ac.kr

The deepest exposures with the Hubble Space Telescope/WFPC2 were obtained for one field close to the north galactic pole in December, 1995: Hubble Deep Field North (Williams et al. 1996, AJ, 112, 1335), and for another field close to the south galactic pole in October, 1998: Hubble Deep Field South (Williams et al. 1999, in press) with WFPC2, STIS and NICMOS, and the resulting data were released to the entire astronomical society. These data provide invaluable sources for investigating the evolution of galaxies as well as the nature of faint stars in our Galaxy.

We present a study of morphological classification of galaxies in the HDFS, using the WFPC2 data. We have classified the bright galaxies using the eye-estimate and surface brightness profile fitting. Our results show that the number of early type galaxies is significantly smaller than that of late type galaxies in the HDFS, which is in contrast with the result for the HDFN where the fraction of each type is similar(van den Bergh et al 1996, AJ, 112, 359). In addition, the number of stars in the HDFS is found to be much larger than that in the HDFN.