We describe the Hubble Space Telescope (HST) Wide Field Camera 3 (WFC3) Early Release Science (ERS) observations in the GOODS-South field. The new WFC3 ERS data provide calibrated, drizzled mosaics with FWHM=0.07–0.15" in the near-UV (filters F225W, F275W, and F336W) and near-IR (F098M, F125W, and F160W) in typically 2 orbits per filter. Together with the existing HST/ACS GOODS-S mosaics in the BVIZ filters, the 10-band ERS data cover 0.2–50 μm in arcmin to AB=26–27 mag (10-sigma for point sources).

In this poster, we describe the: (1) scientific rationale, data taking and reduction procedures of the WFC3 ERS mosaics; (2) object cataloging and star-galaxy separation techniques used in these 10 different filters; (3) reliability and completeness of the 10-band object catalog from the ERS mosaics; (4) object counts in 10 different bands from 0.2–3.7 μm in AB=25.6–27.6 mag; and (5) the full-color 10-band ERS images.

We discuss the panchromatic structure for a variety of interesting ERS objects at intermediate redshifts (z=0.5–3), including examples of galaxies with nuclear star-forming rings, bars, or weak AGN activity. UV-dropout galaxies at redshifts z=2–3, and objects of other interesting appearance. The 10-band panchromatic data base is very rich in morphological structure at all redshifts with good pointing, where young or older stars shine during the peak epoch in the cosmic star-formation rate (at z=1.2).

REFERENCES:

The Hubble Space Telescope Wide Field Camera 3 Early Release Science Data: Panchromatic Faint Object Counts from 0.2-2 microns to AB=26-27 mag. Rogier A. Windhorst (ASU), P. McCarthy (QCIW), S. Cohen (ASU), R. Ryan (UC Davis), S. Driver (U. St. Andrews), N. Hathi (UC Riverside), R. A. Jansen (ASU), A. Koekemoer (STScI), M. Mechtley (ASU), R. O’Connell (U. Virginia), M. Rutkowski (ASU), H. Yan (OSU), & the WFC3 Scientific Oversight Committee.