Lossy Compression Algorithm Testing

- GOODS/ACS Images (Lin)
  - — Compile image test suite (in progress)
    - ∗ Define specific fields/filters
    - ∗ Resolve problems transferring fits files to some Windows machines
  - — Coaddition/processing ("quick and dirty") of raw GOODS images using SWarp (in progress)
    - ∗ Cosmic ray removal
    - ∗ Background subtraction
    - ∗ Geometric transformations
  - — May need more careful coaddition/processing for final tests

- SExtractor for initial tests/assessments (Lin)
  - — Setup configuration file parameters
  - — Define parameters to measure
    - ∗ magnitudes, FWHM, ellipse parameters, 2nd-order moments
  - — Tools/criteria to evaluate measurements on original vs. lossy compressed images

- Michigan adaptive moments (help needed)
  - — Adapt from SDSS image processing pipeline (or get original code) to run on standalone GOODS images
  - — Define parameters to measure
  - — Tools/criteria to evaluate measurements on original vs. lossy compressed images

- Shapelets and other shear estimators
  (collaborate with SNAP Weak Lensing Working Group)
  — Contact Massey, Bernstein, Smoot et al.
  — Define specific tests using shapelets and various shear estimators
  — Supply our original and compressed images to them to run their codes (alternative is to have them supply their codes for us to run)
  — Tools/criteria to evaluate measurements on original vs. lossy compressed images

- Assess impact on WAS analyses by propagating magnitude and shear errors/systematics (original vs. lossy compressed) to banana-plot makers:
  — Cosmology from weak lensing (Stebbins, Frieman)
  — Cosmology from clusters (Annis)
  — Photo-z's (Lin)