A Science-Ready Co-Added Mosaic Of TESS Full-Frame Images

G. B. Berriman, J. C. Good, J. L. Christiansen (Caltech/IPAC-NExScI), B. W. Holwerda (University of Louisville). Contact: Bruce Berriman, gbb@ipac.caltech.edu.

Mosaic Freely Available
https://exofop.ipac.caltech.edu/tess/contributed/TESSMosaic/

Mosaic of FFIs for Sectors 1-5 in camera 4, centered on the South Ecliptic Pole. Over sampled x3.5 at 6.5 arcsec. Equatorial Gnomonic projection (TAN) with North up.

Artifacts in Mosaic Complicate Analysis

- Fuzzy ring near β=−83° due to scattering and/or extended emission from high-latitude clouds.
- The corners of the camera field show background scattering.
- Pronounced spikes in brighter objects
- Gaps between the four CCDs associated with each camera are not always filled in.
- Also: vertical strips in images due to strapping run across the backs of the CCDs.

Next Step: Mosaic All Year One images with custom approaches to handling artifacts

Mosaic coverage map:
Blue:1, Green:2, Orange:3, Red:4, White: 5.