



Biases in Atlas-Image derived source positions



- Differences of up to ~ 0.25 arcsec (W1 and W2), and up to ~ 1.2 arcsec (W3 and W4) are seen between source “peak” positions derived from Atlas Images and astrometrically calibrated positions in catalog. These are 90th-percentile upper limits.
- Magnitude and direction of biases vary with position on sky, notably with scan direction for W3 & W4 giving bimodal distribution.
- Origin not yet completely understood. Position biases also seen in single-exposure images (but smaller).
- Other co-adding software run on single-exposures give similar results.
- A recipe on how to check/correct for biases is given in Explanatory Suppl.

below: x - y density plots of “catalog – image-derived intensity-weighted centroid” positions from 15 Atlas Images over the sky

