

WISE Operations MMR

IPAC/WSDS Weekly Status Report

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Frame Co-adder Updates



- Improved background regularization/matching using *robust* higher-order fits
- Improved outlier rejection by smoothing stack-sigma estimates in background regions
- Implemented frame thresholding/rejection based on:
 - #outliers (from stacking method) per frame,
 - #glitches (single-frame hard-edged pixels) per frame,
 - #saturated pixels per frame
 - then omit bad frames from co-addition
 - helps with moon/bright-object affected frames
- Tuned outlier parameters to blank-out/reduce moving objects/fuzzies, satellite streaks
- Examples for a worst-case moon affected region follow
- Impact: *up to* 30% loss in depth-of-cov for W3, W4.
- Testing on galactic-plane obs and photometry in progress



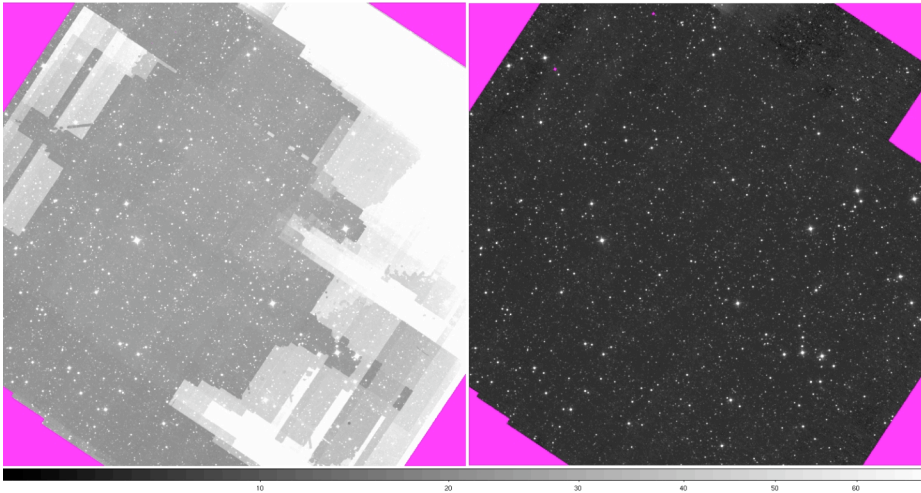


before/after Atlas coadds

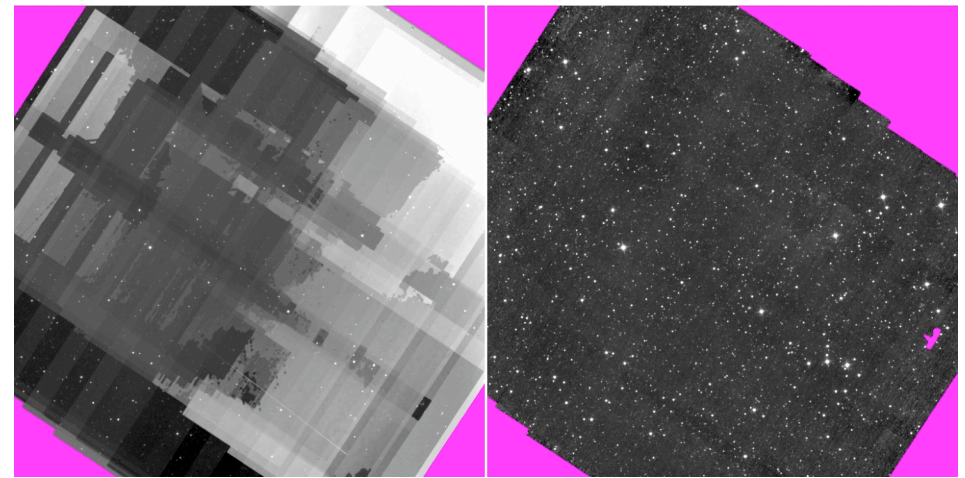
elat $\sim -8^\circ$, glat $\sim -32^\circ$



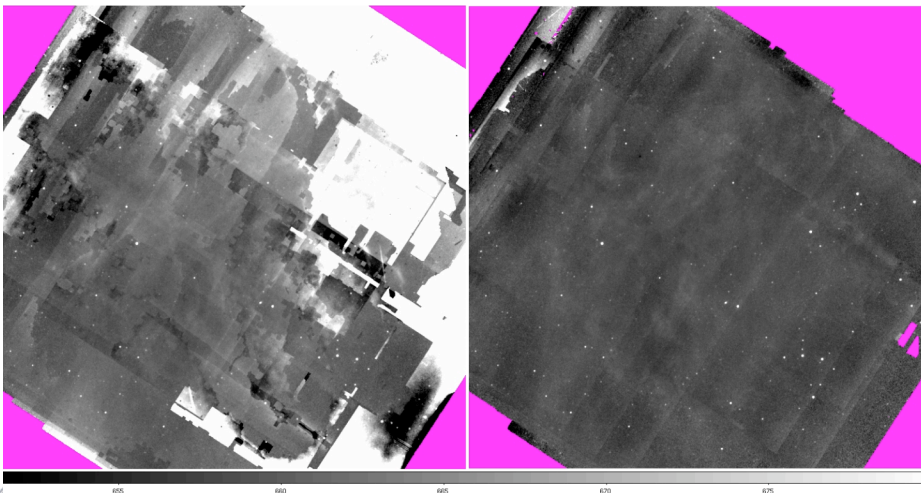
W1 before / after



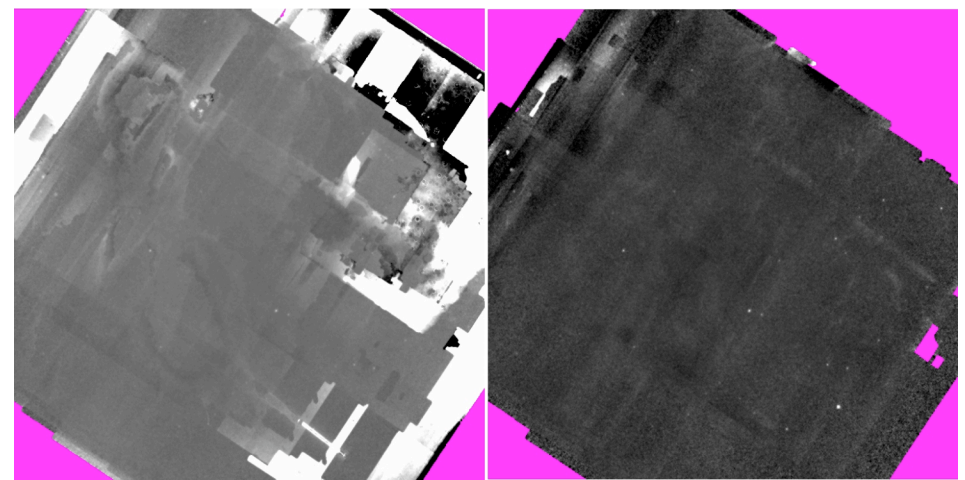
W2 before / after



W3 before / after

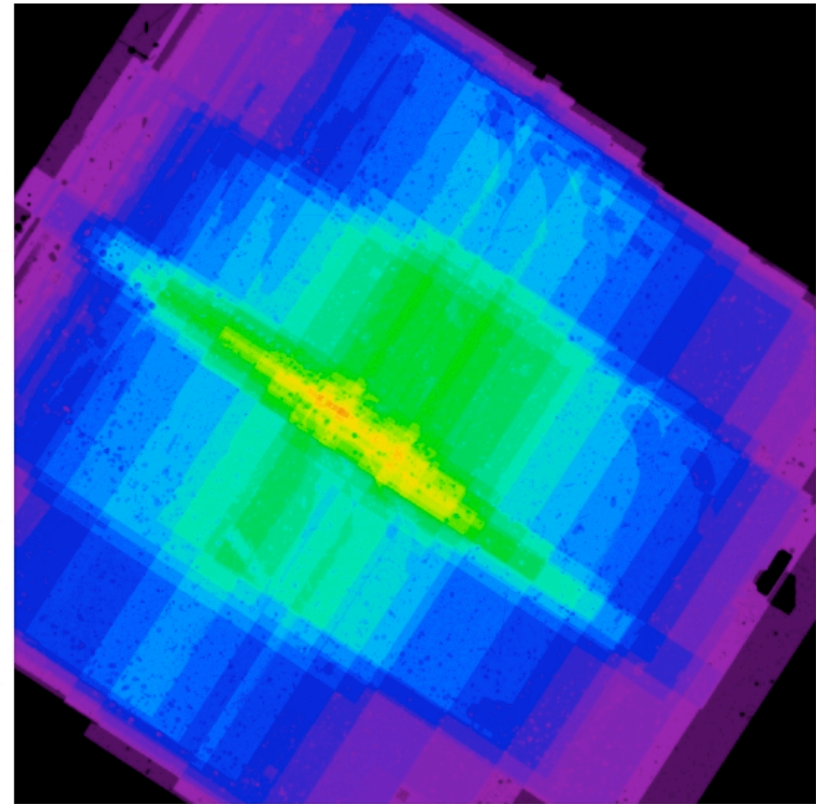
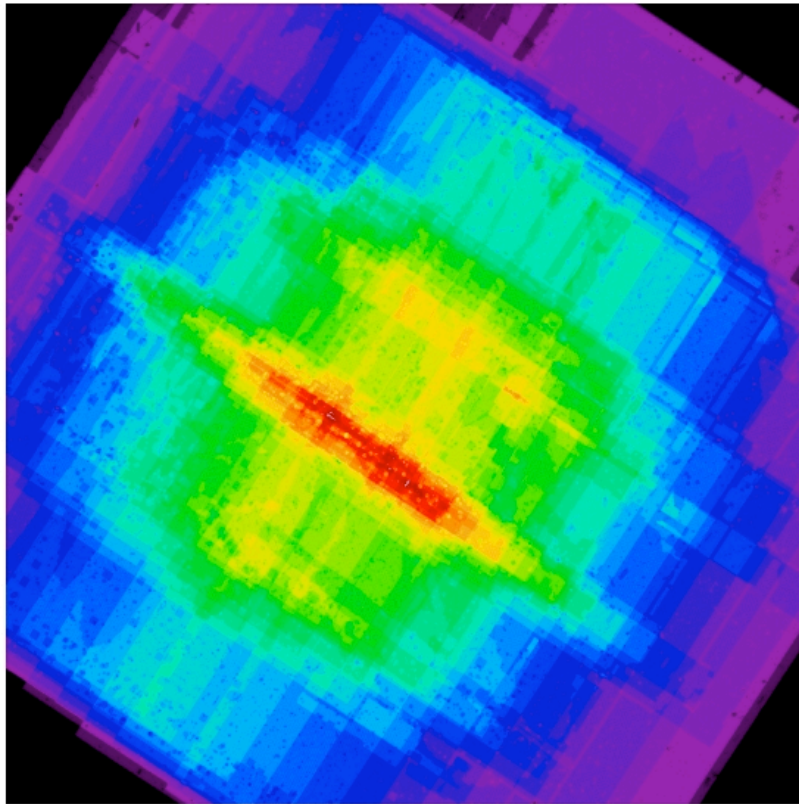


W4 before / after





W3 depth-of-coverage before/after

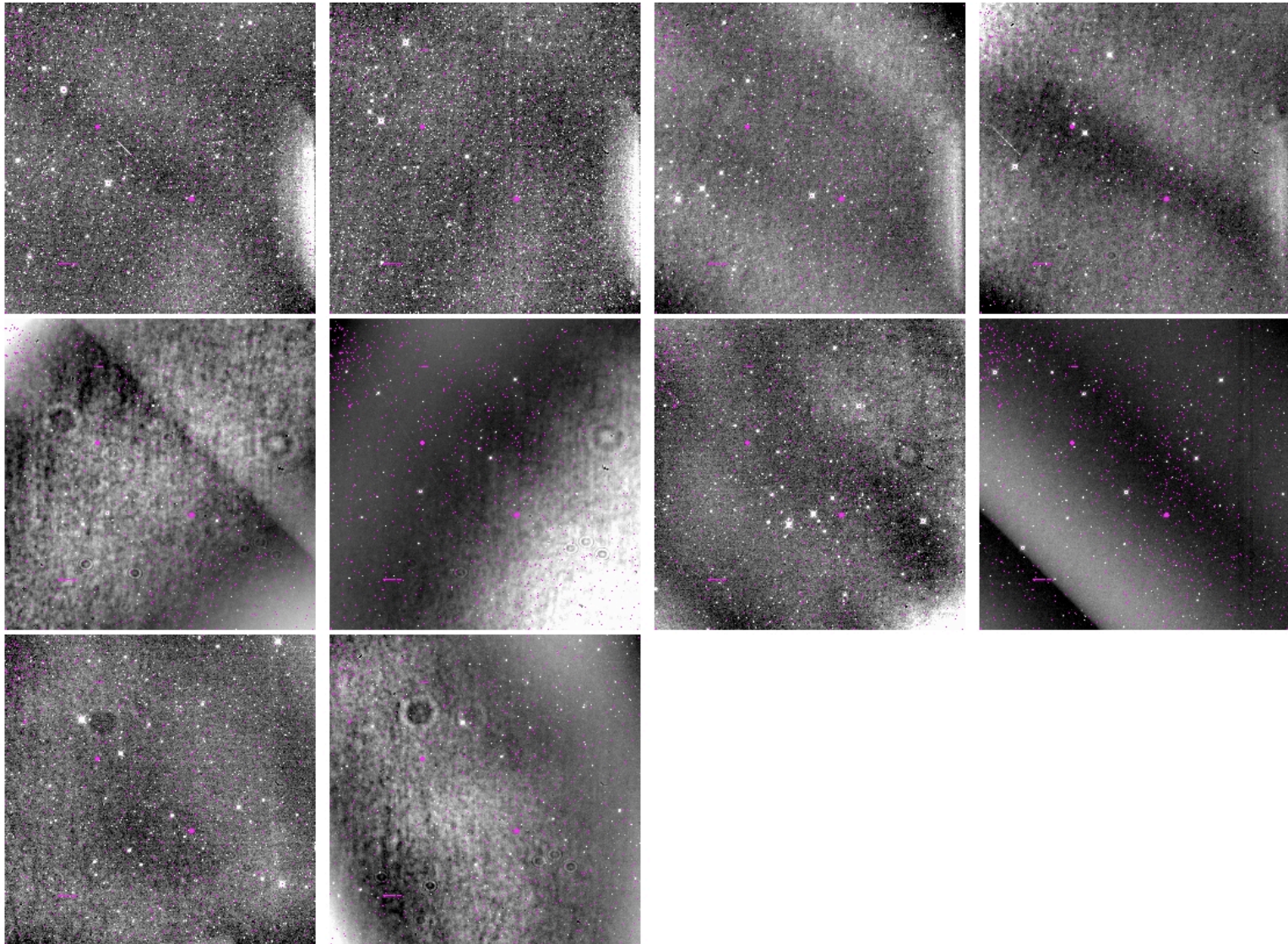




W1 rejected frames



WSDC Status

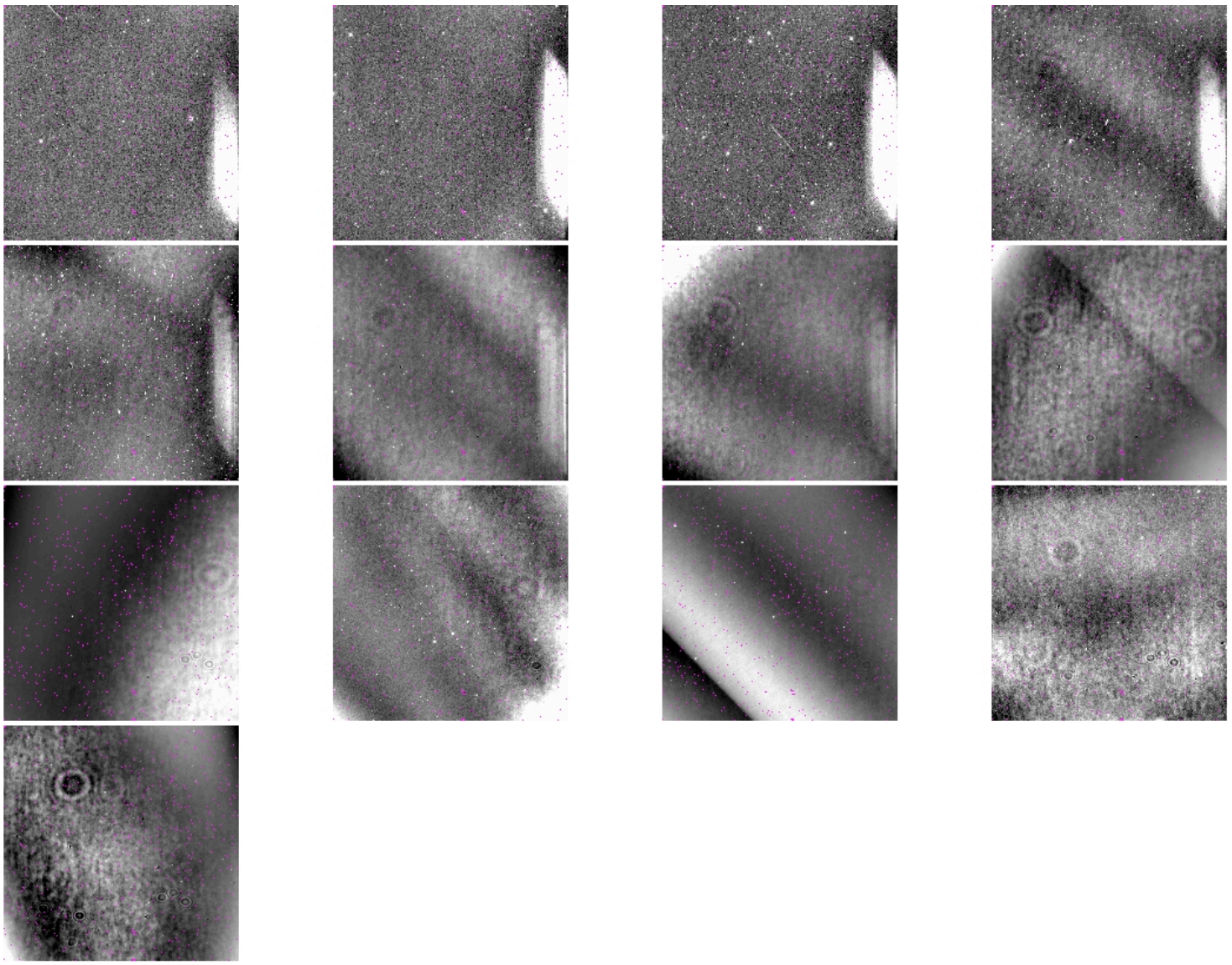




W2 rejected frames



WSDC Status

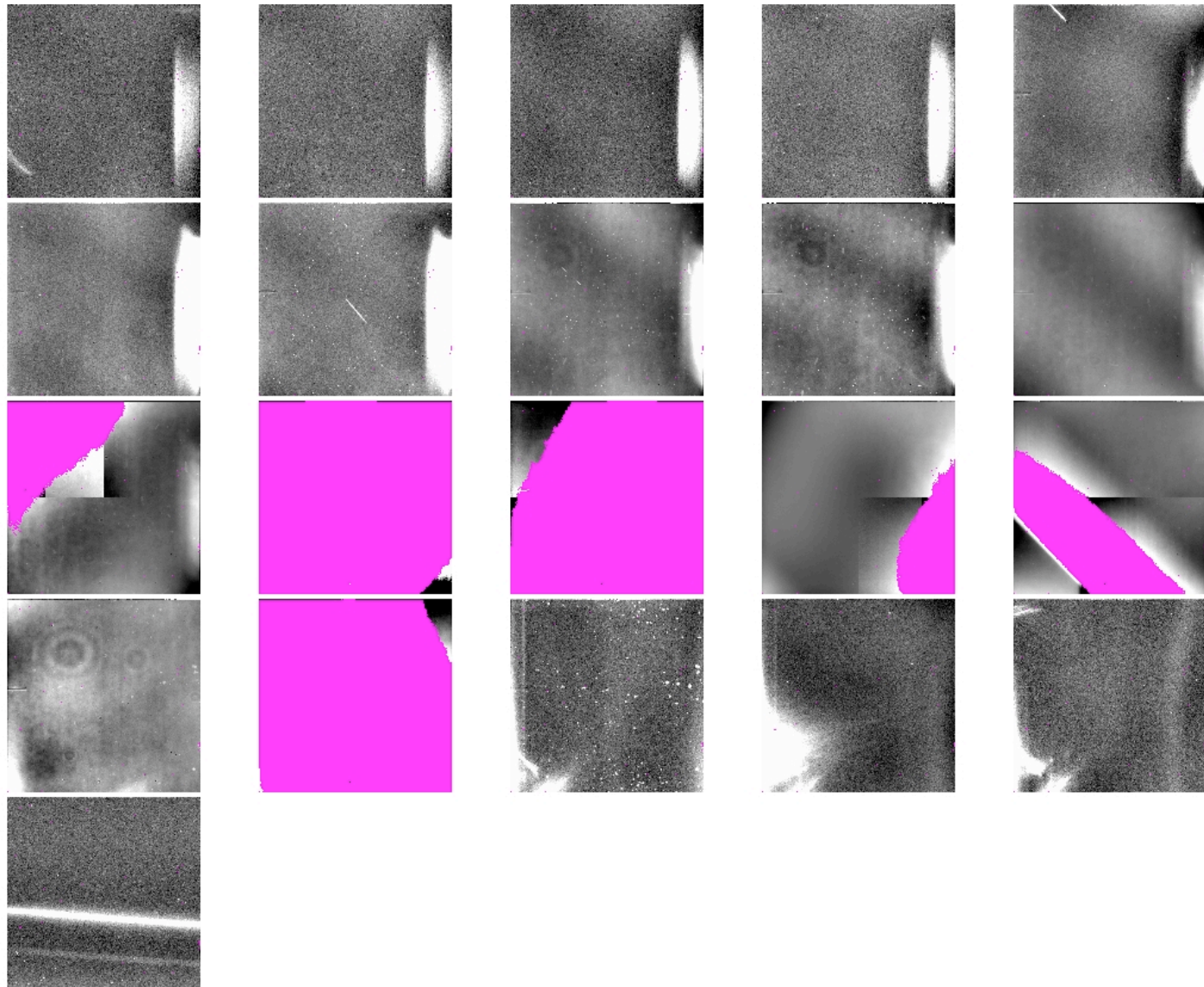




W3 rejected frames



WSDC Status

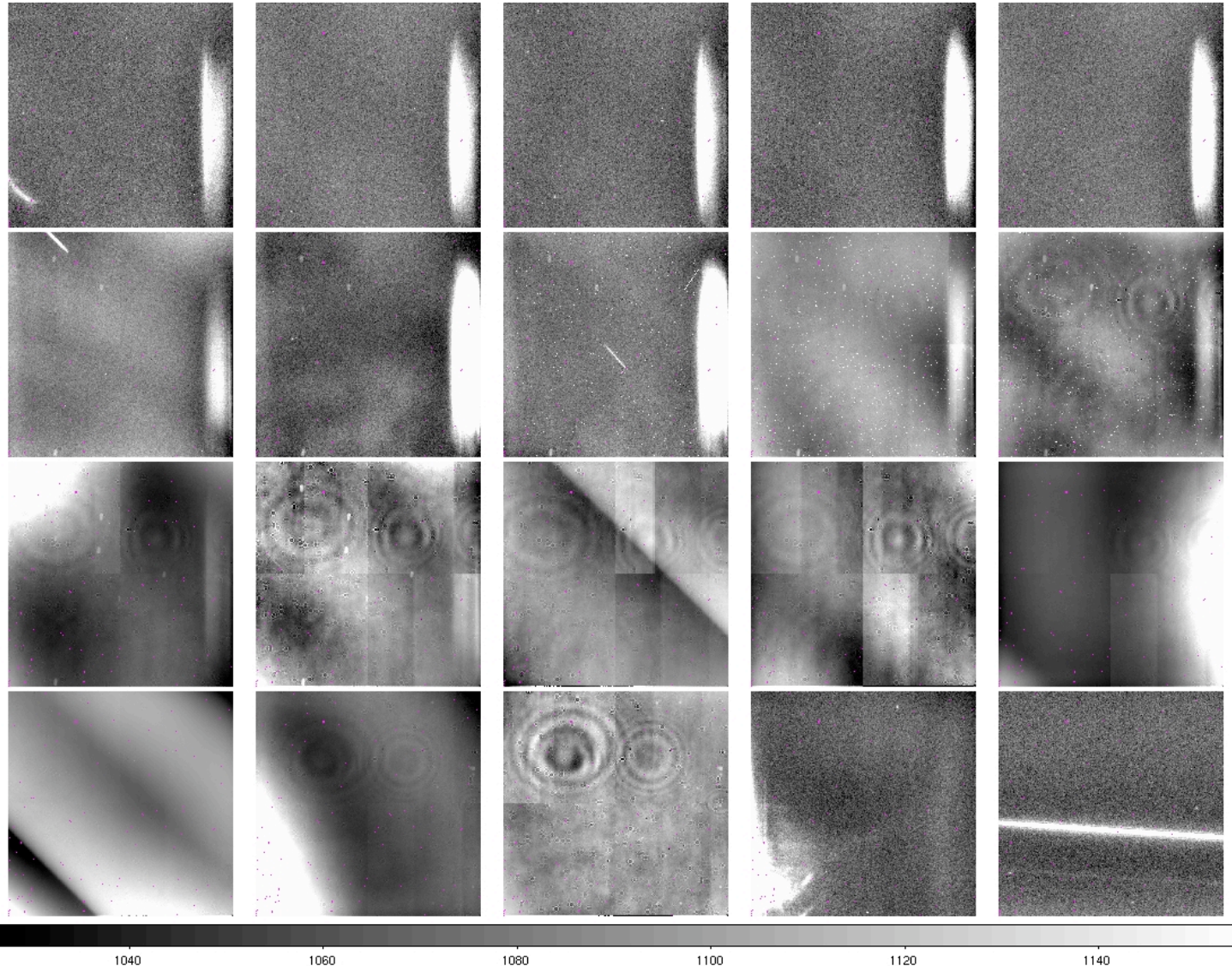




W4 rejected frames



WSDC Status





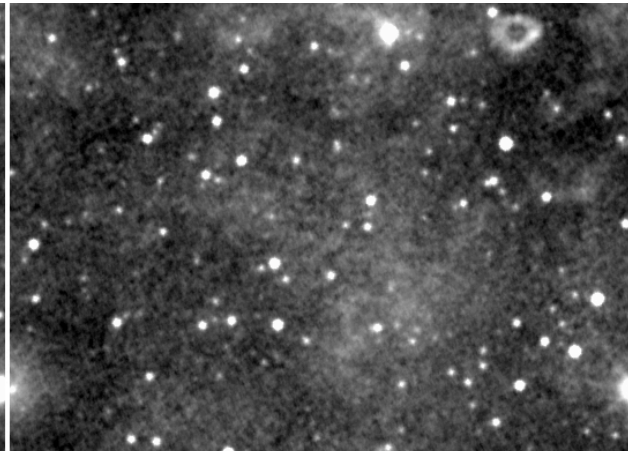
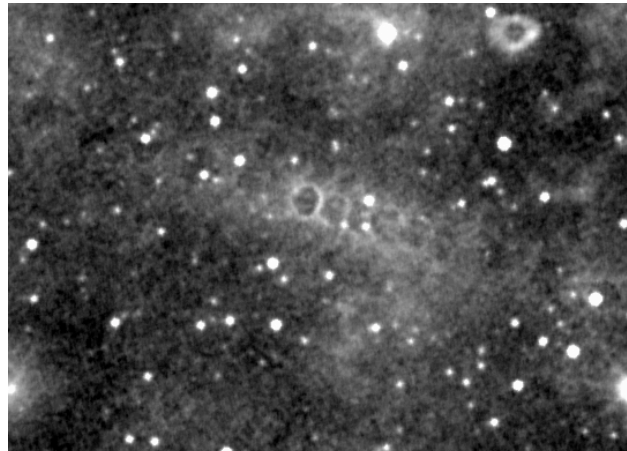
Moving-object outlier- rejection example



now on ops

new

W3



W4

