



National Aeronautics and Space
Administration
Jet Propulsion Laboratory
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WISE Operations MMR

IPAC/WSDS Weekly Status Report

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Split-Quadrant Corrections



- To mitigate quadrant splits in W3, W4 induced by droop/saturation and from fluctuations in banding patterns
- For v3.5 delivery
- Method (more details to appear in SDS):
 - For details, see: <http://wise2.ipac.caltech.edu/proj/fmasci/droop.html>
 - identify candidate splits in a quadrant by first collapsing columns into a 1-d vector of 5%-tile values (to minimize biases from extended structure/sources), then thresholding the first derivative of these vectors;
 - filter out spurious splits: keep only those associated with saturated (drooped) pixels and known locations from banding structure;
 - compute 5%-tile values within strips of width ~ 6 pixels on either side of a split with some buffer since transition at split can be smooth (not abrupt);
 - use these quantiles to compute an offset correction and equalize levels;
 - correct the columns in the split transition region by offset matching to neighboring pixels - still using lower quantiles to minimize biases.

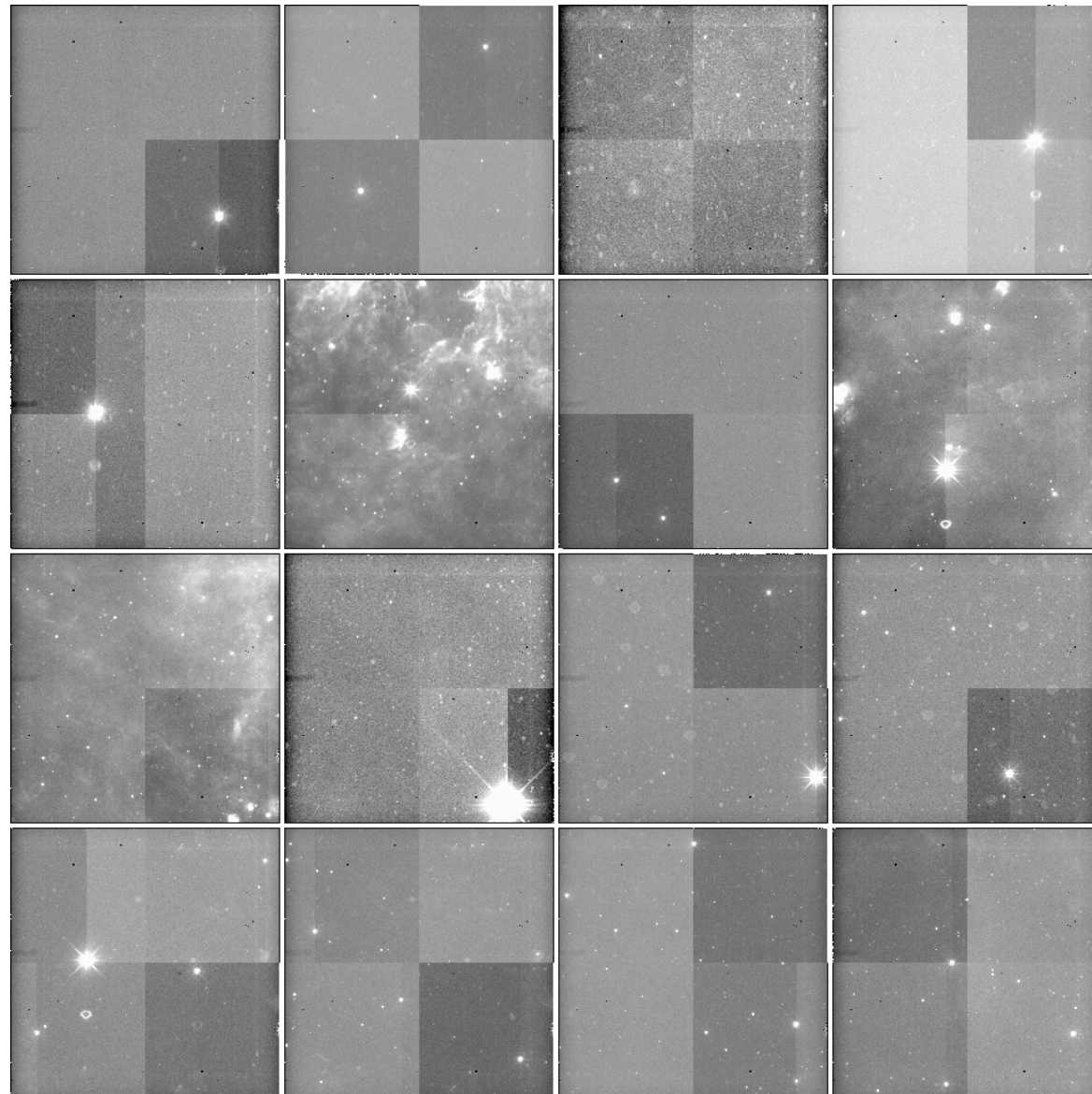




W3 examples (Level 0)

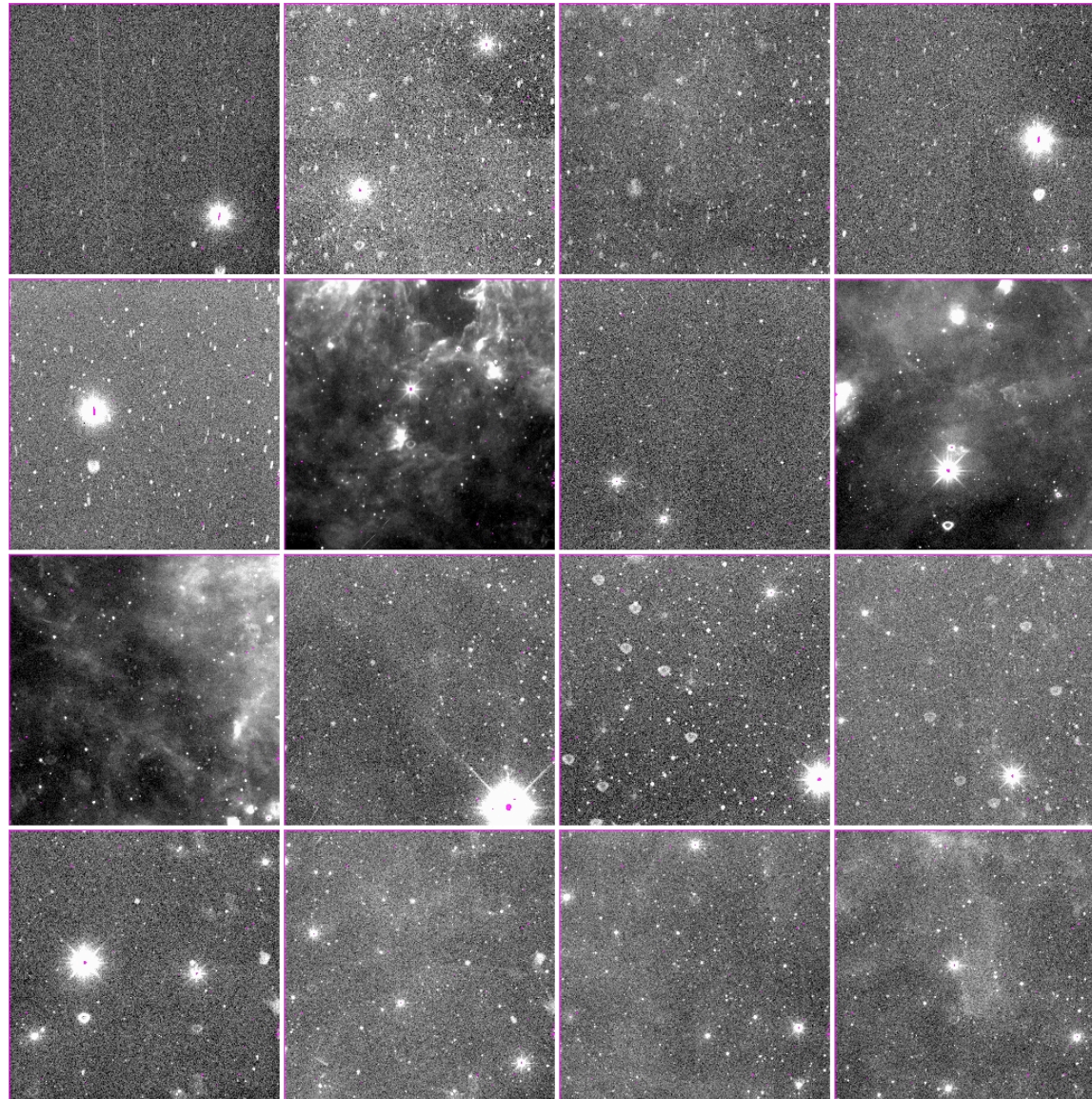


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W3 examples (Level 1b)

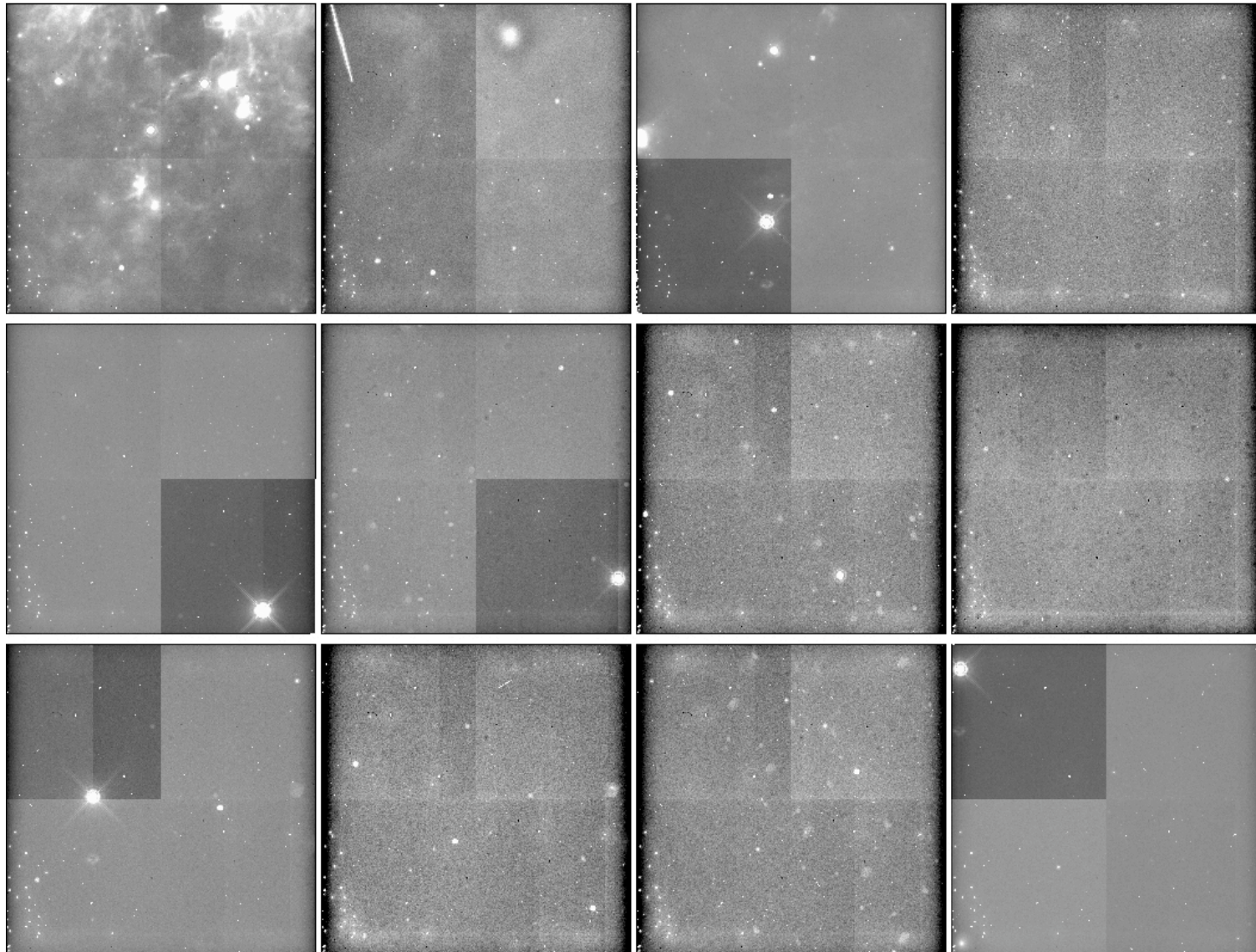




W4 examples (Level 0)



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W4 examples (Level 1b)



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