34 - Validando imagens DES-Y6

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Outline

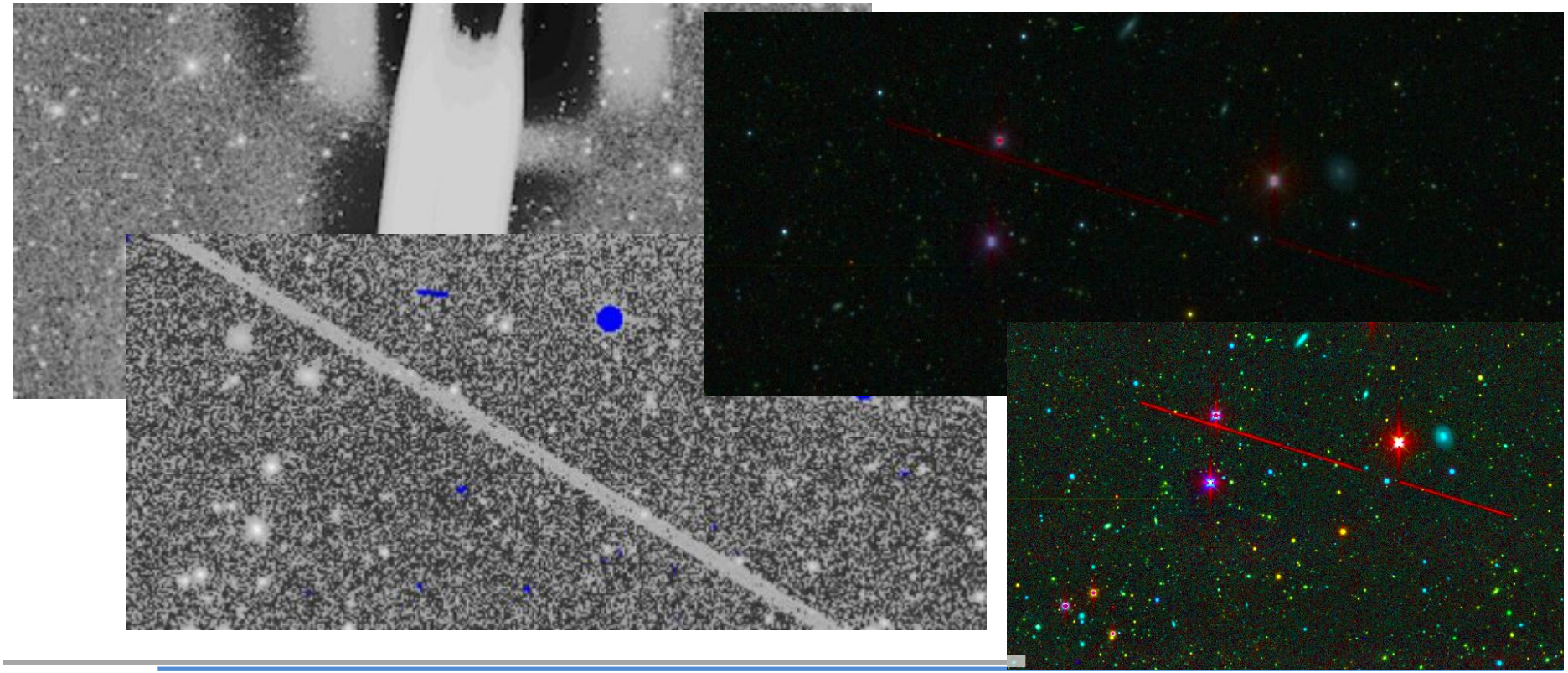
- For DES SV, Y1, Y3 and Y6, the single exposure images are (were) combined into coadded images, with a tile (0.75ºx0.75º) as unit;
- After (or during) that, there is a campaign to validate the images with eye-balling, using ‘Tile inspection’ tool (developed by LIneA);
- The coaddition image system is robust and it works well but… it is needed to check the images.
- The visualization tools are also needed to check objects instead a blind trust on catalogs.

LIneA Science Server

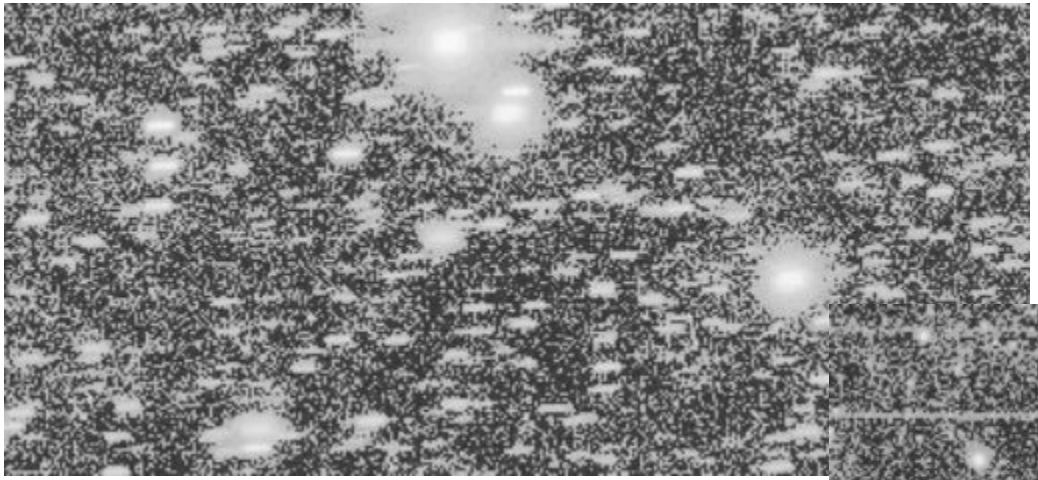
Outline

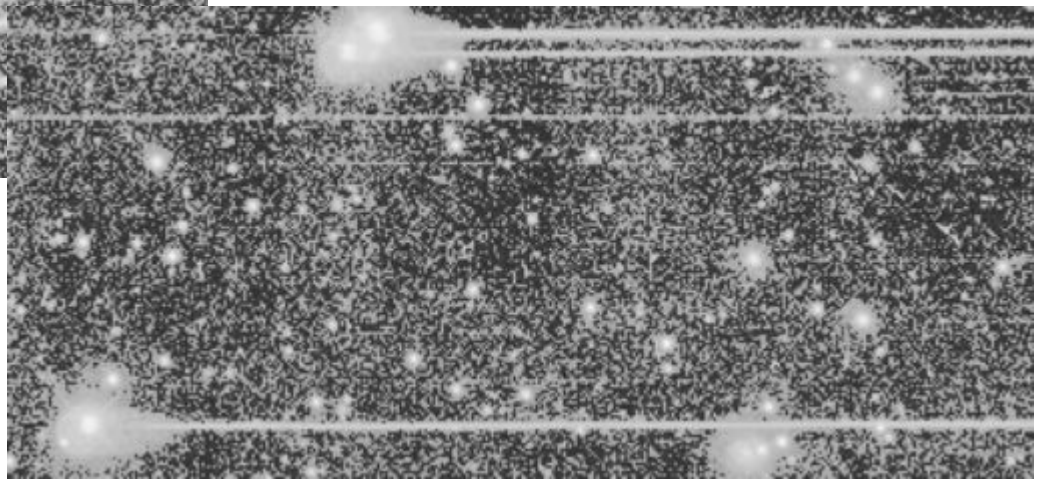
- Some image issues in DES-SV images (B&W) and in DES-Y6 images (RGB) are shown in the next slides.
- Many images in SV, Y1 were problematics;
- Severe

Airplane and satellite trials

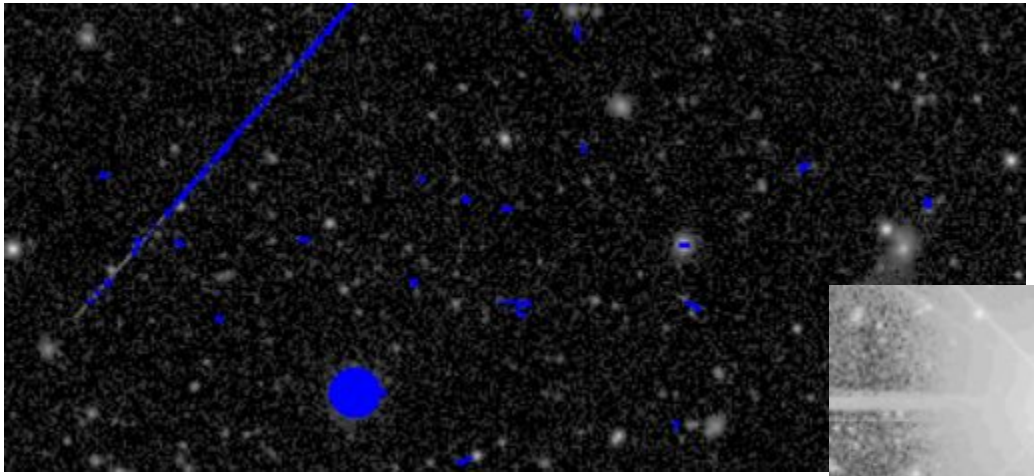


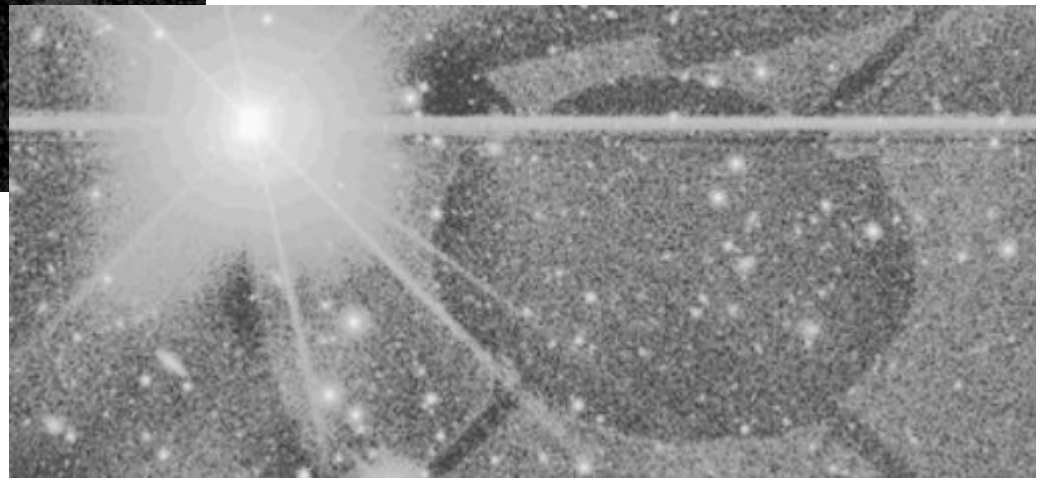
Guiding, wind, shutter...



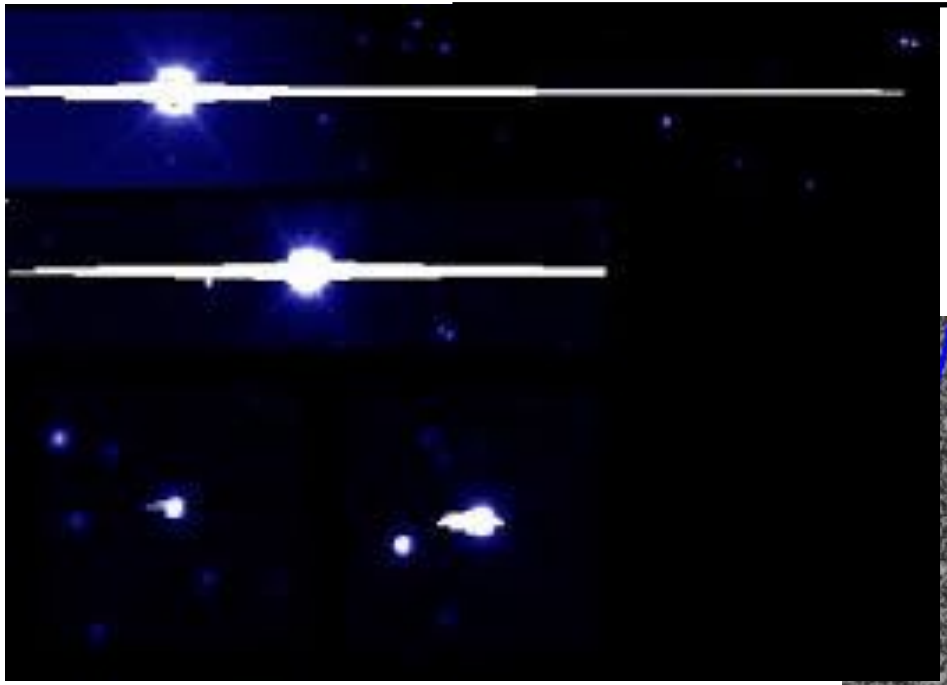


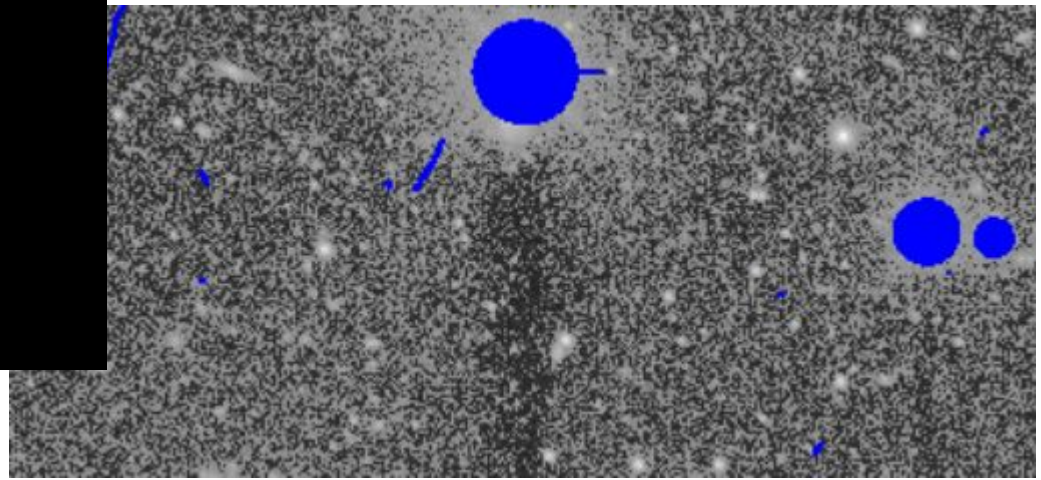
Cosmic rays and ghosts



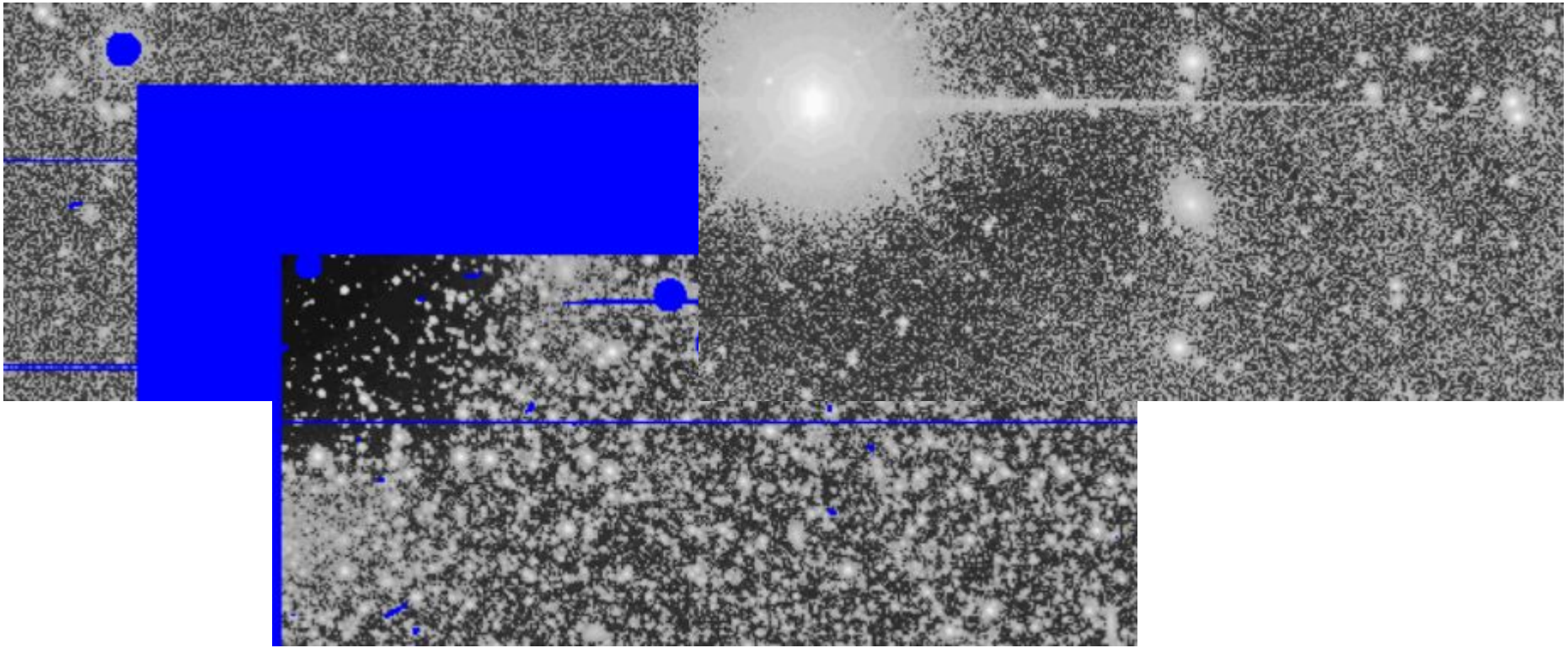


Bleed and antibleed

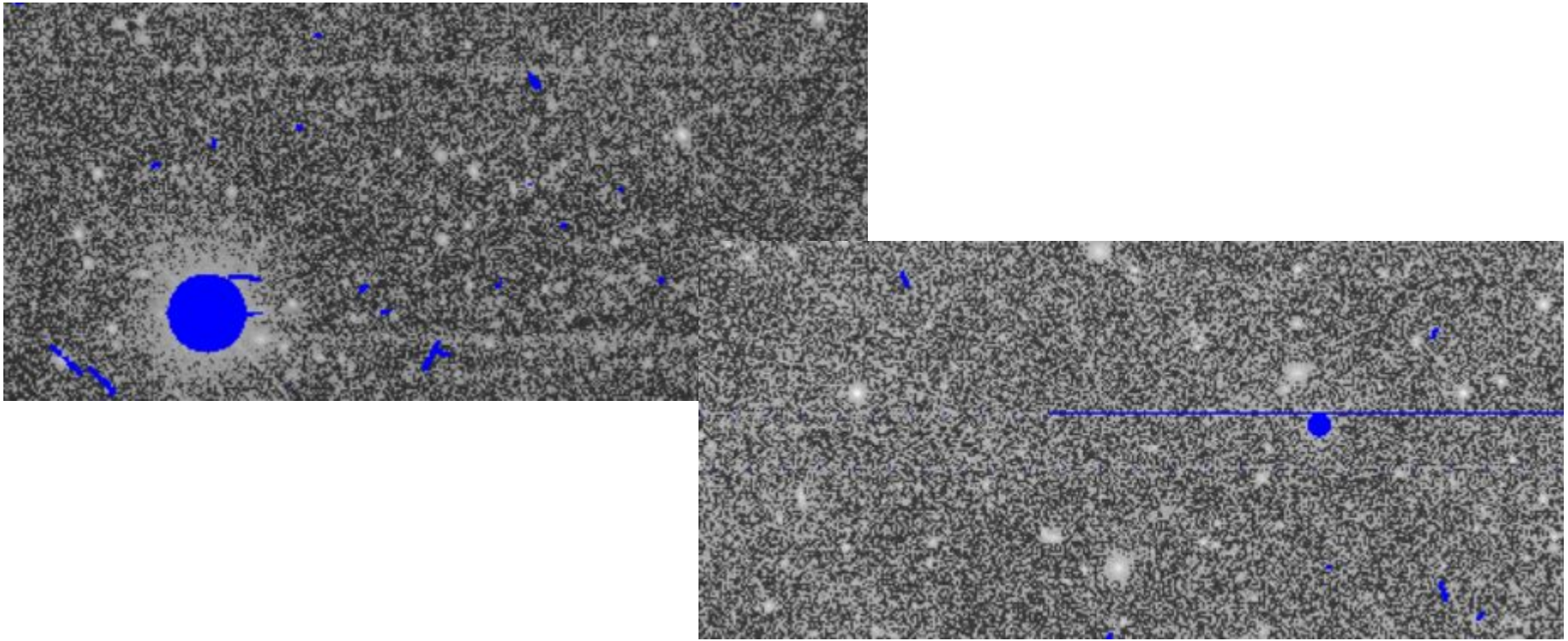




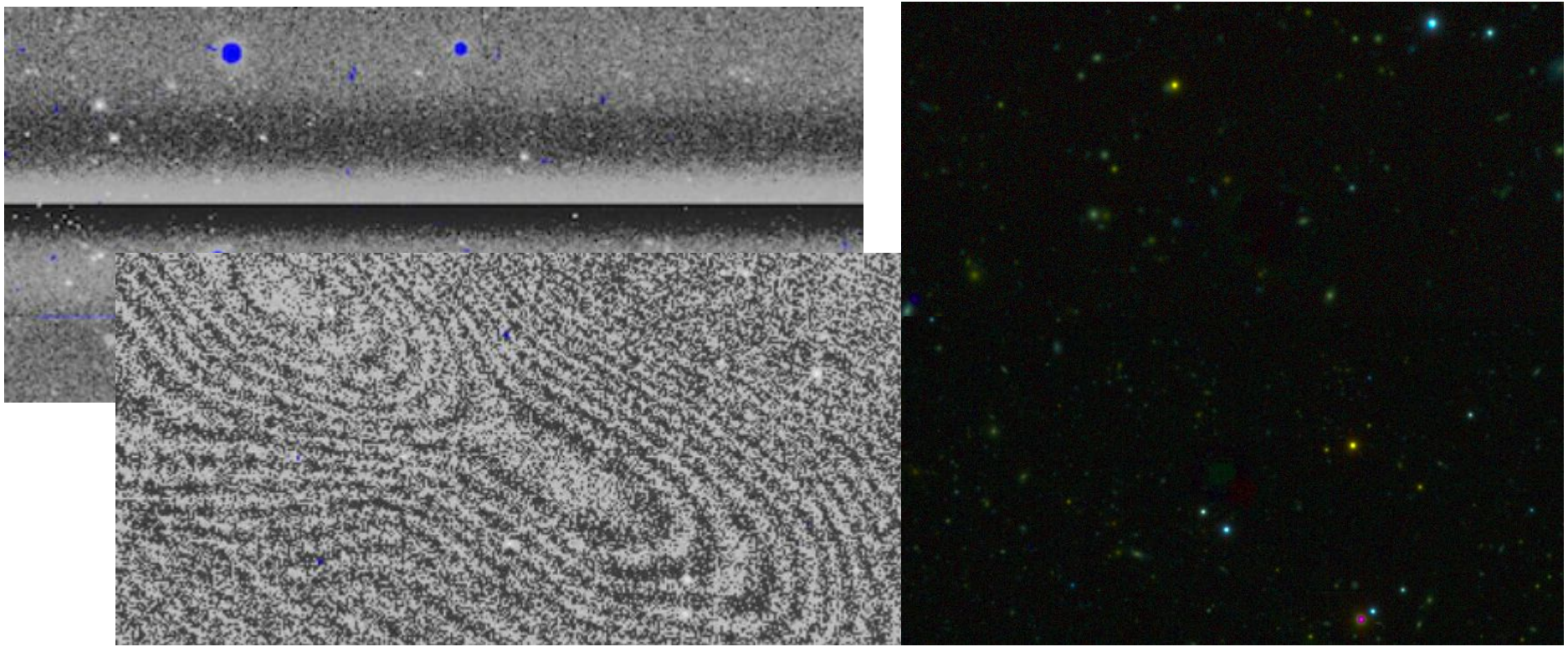
Over subtraction (excessive mask, dark rim and dark halo)



Crosstalk, column mask



AB jump, fringing, tape bump

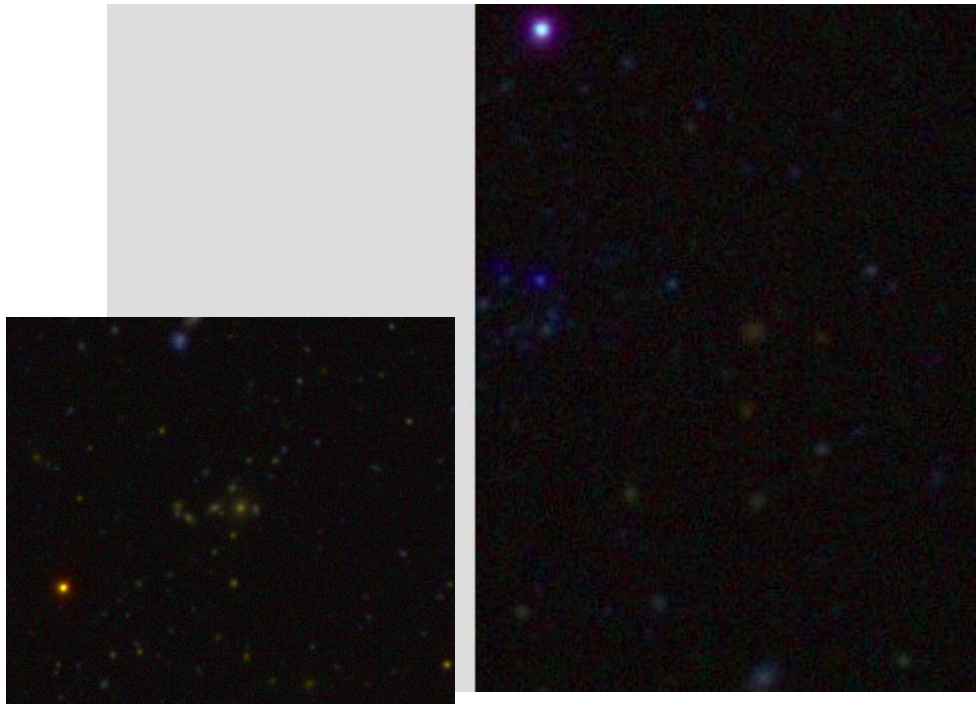


Current statistics (Aug 25)

- 10127 tiles were produced;
- 1427 good (97.3%);
- 40 bad (2.7%);
- 8660 not inspected (85.5%);

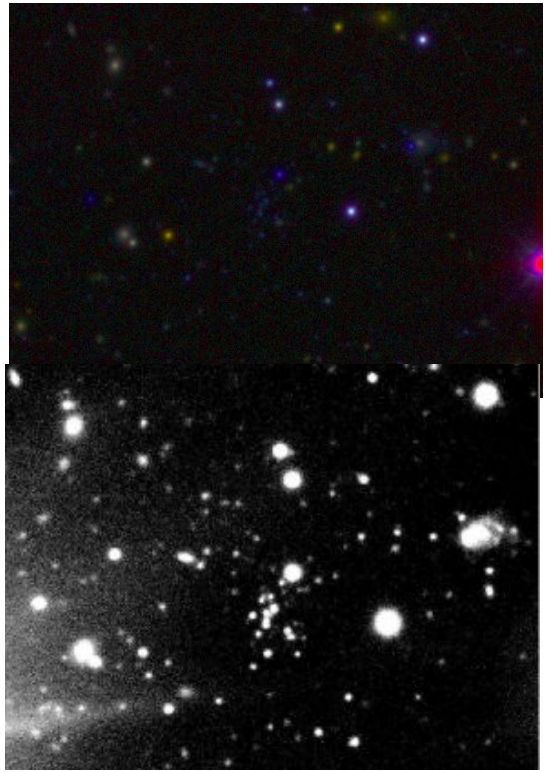
LIneA Sky Viewer on the discovery of star clusters/dwarf galaxies

- DES1 (2016MNRAS.458..603L) as seen by DECam (*grizY,* right);
- Clusters of galaxies (bottom) are redder than the ‘nearby’ stars;



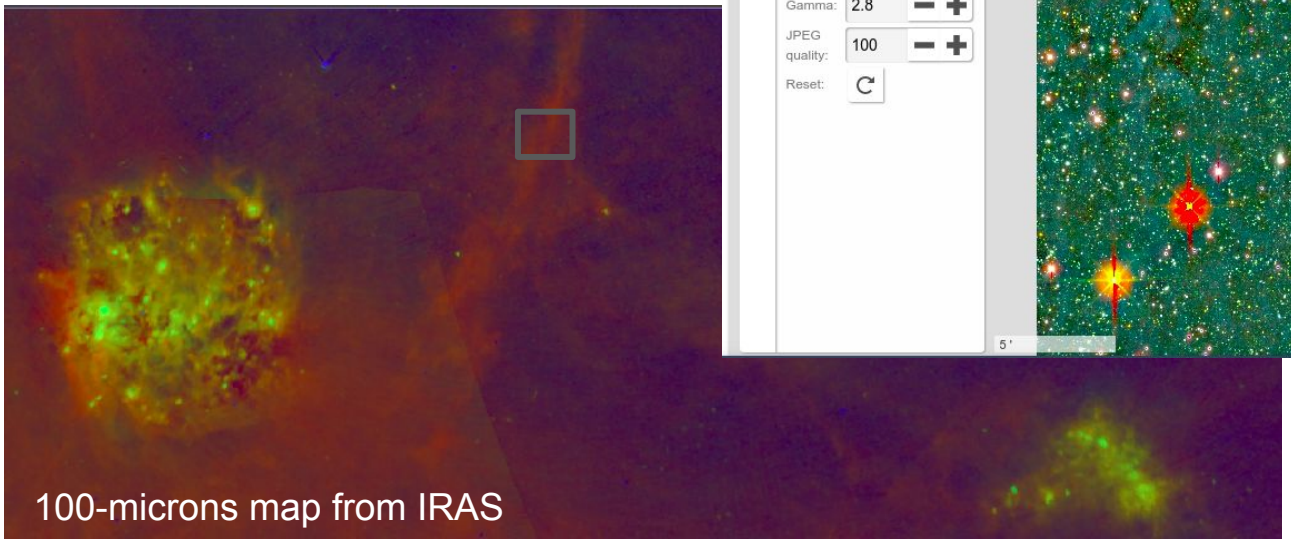
LIneA Sky Viewer on the discovery of star clusters/dwarf galaxies

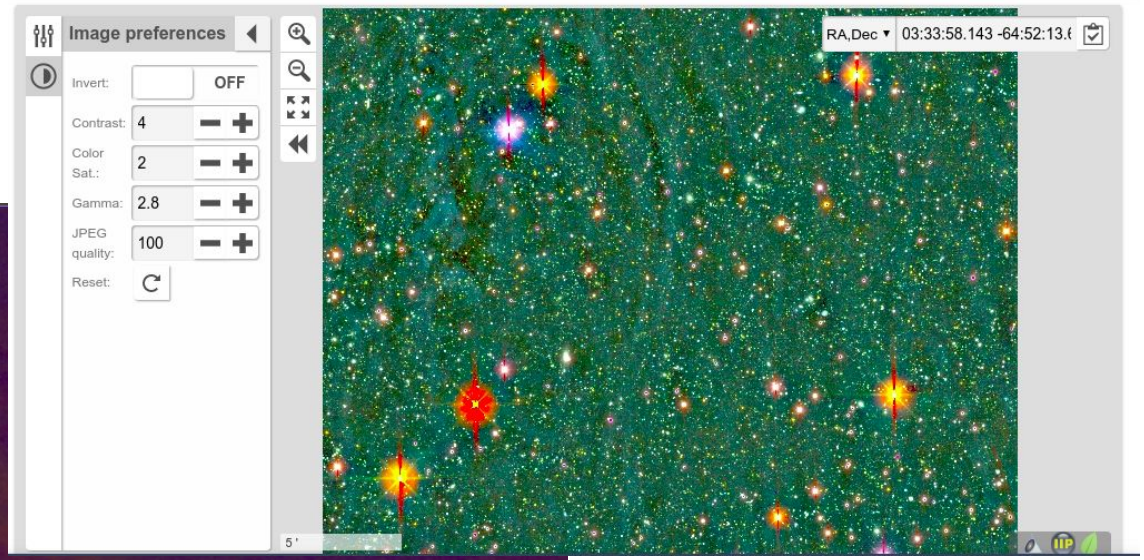
- DES3 (2018MNRAS.478.2006L) as seen by DECam (*grizY*, top) and SOAR (only *g* band, bottom);



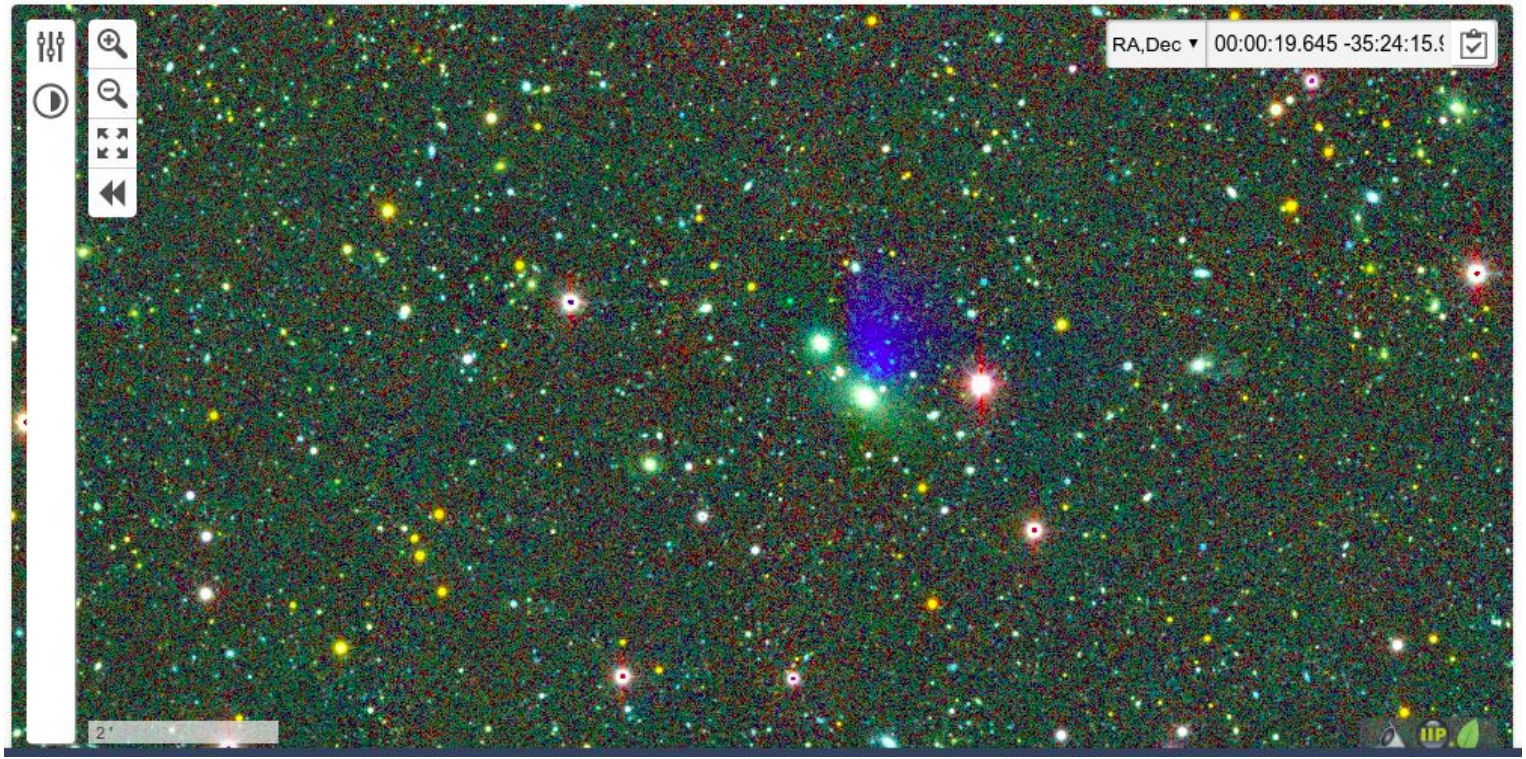
Example of cirrus - DES0332-6456

l = 280.2º, b = -44.53º





DES0000-3540 - Possibly Comet 240P/NEAT



Summary

- *Tile inspection* and *Sky Viewer* are important tools to validate the process of coadding images;
- Contrast tools help to highlight objects/problems in the coadded images;
- Eyeballing (considering the DES members) is a significant participation on the collaboration;
- Opportunity to be the first person to analyze an image;

Questões