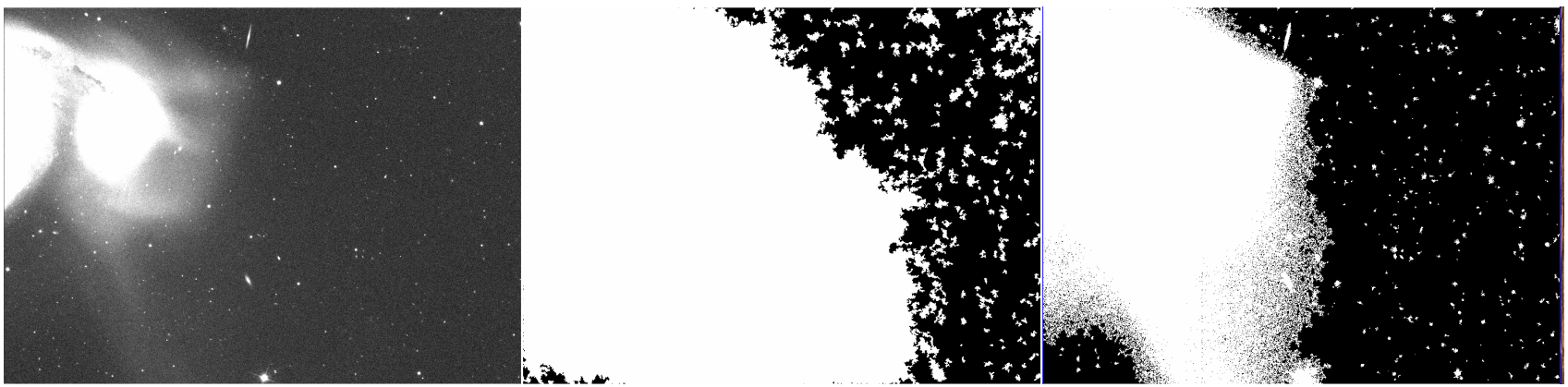
NoiseChisel and MTObjects (detection, Mohammad, Aku & Caroline)

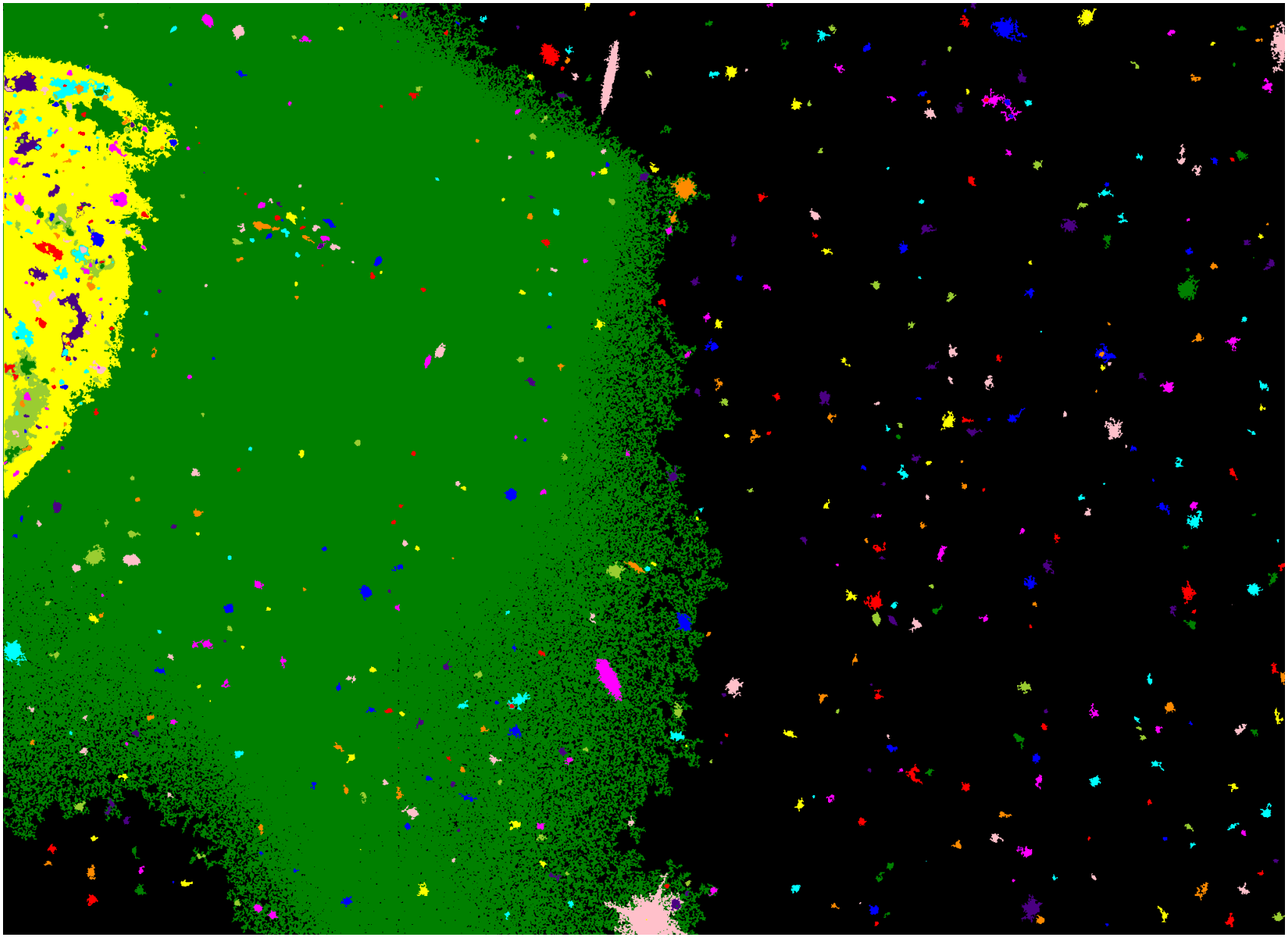
- NoiseChisel (part of Gnuastro) was configured according to this tutorial: `https://www.gnu.org/s/gnuastro/manual/html_node/Detecting-large-extended-targets.html`
- MTObjects was configured with `move_factor` set to 0.3.

Left: Input image (Wirlpool galaxy on edge of image).
Middle: NoiseChisel's detected pixels colored in white.
Right: MTObject's detected pixels colored in white.

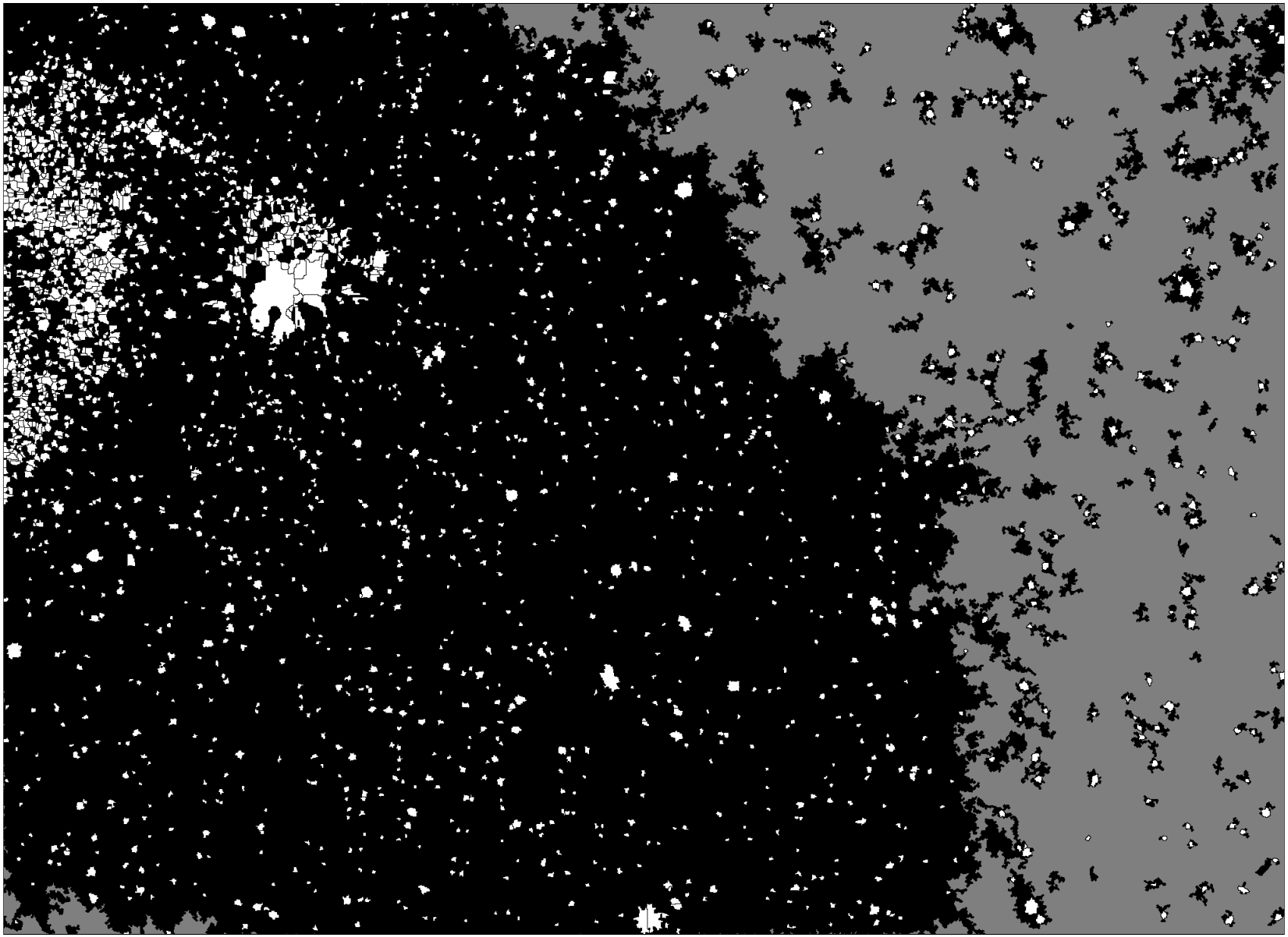


True peaks: Input (scaled to show brighter HII regions)

True peaks: MTObjects segmentation map.



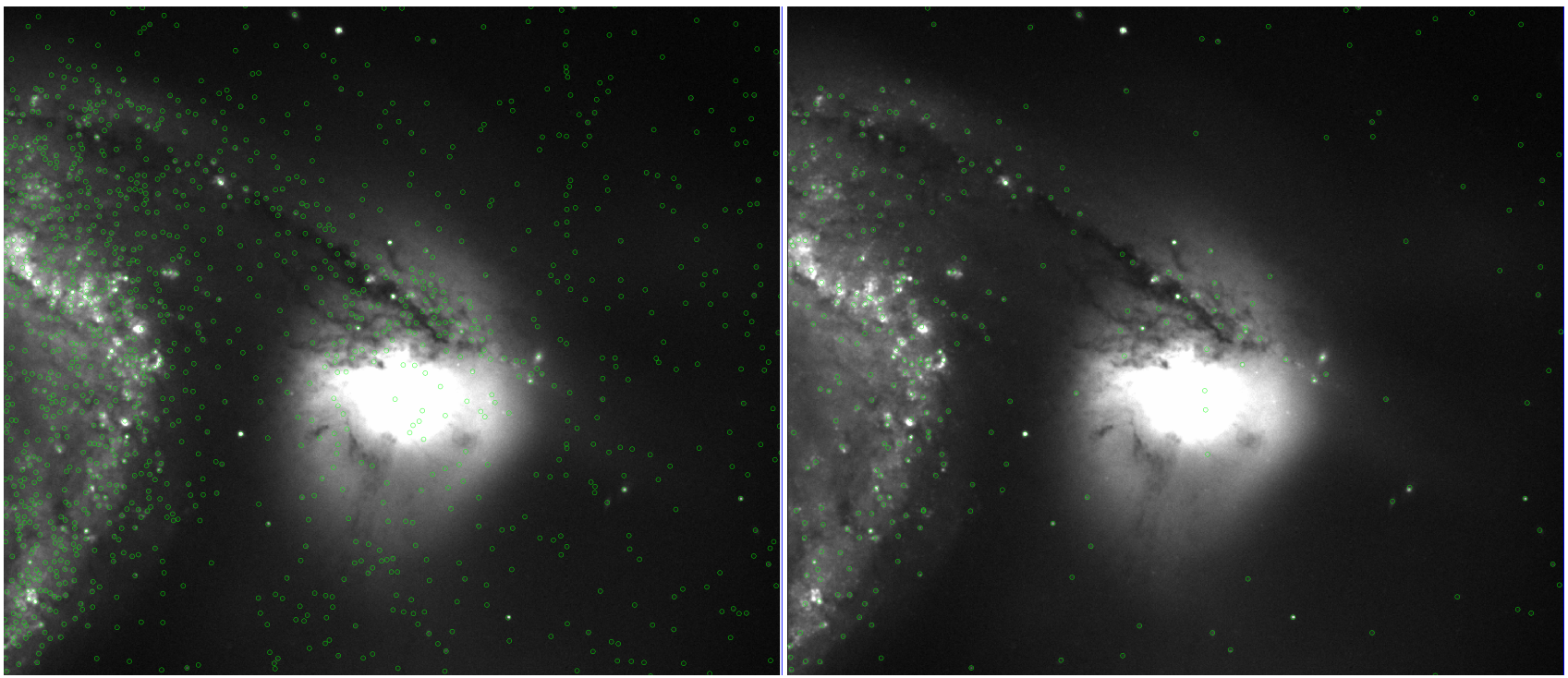
True peaks: NoiseChisel clumps map.



Zoomed in with centers marked

For an easier visual comparison on the actual image, a circular aperture (of fixed size) is placed at the central position of each detected peak over the input image. This mainly highlights the number and position of the peak detections in the actual input, not their shape and extent (see segmentation map above for those).

Left: Gnuastro's Segment program (previously part of NoiseChisel).
Right: MTObjects.



Zoomed even more...

The dynamic/color range of the displayed image is set to highlight the more brigher peaks (that are expected to be detected easier). In particular, note the detection of the four bright peaks that are very close, shaped like the Southern Cross, on the left of the image.

Important note: Different scaling of the color range will make the fainter peaks more easily visiable to the eye.