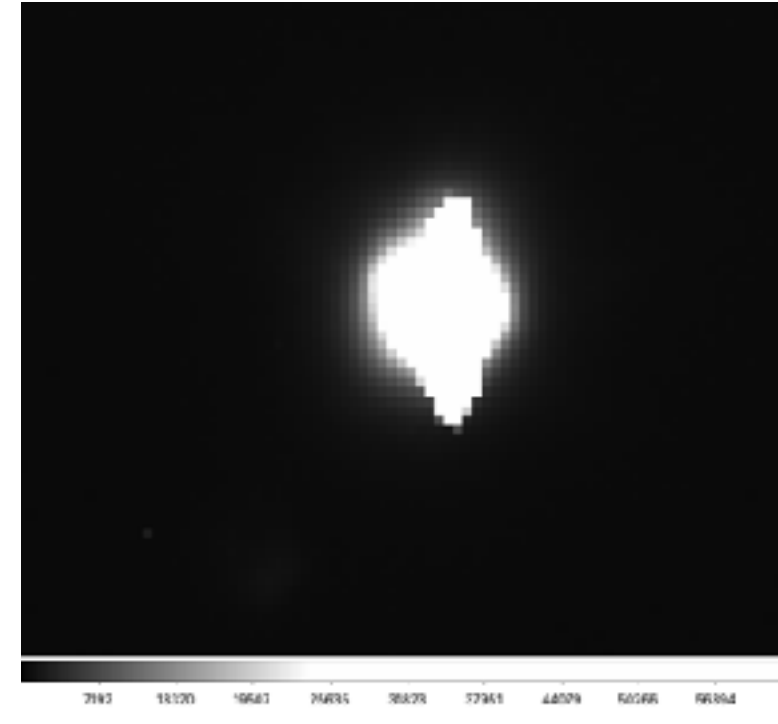
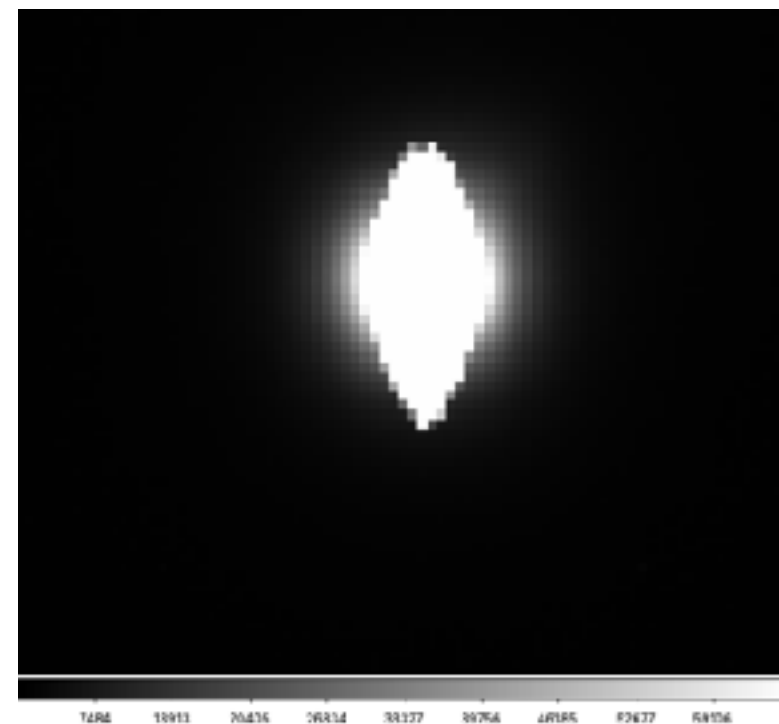
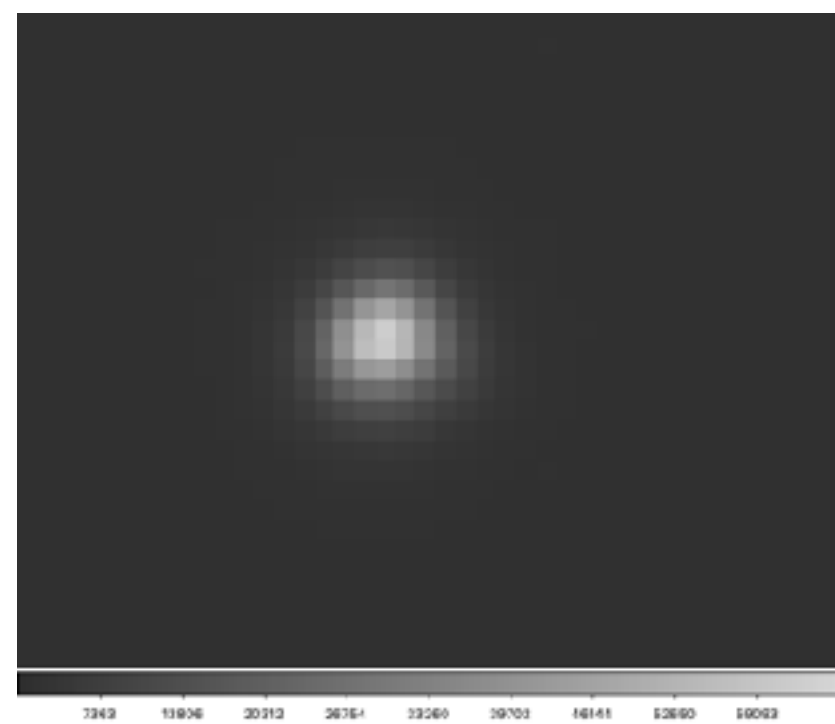
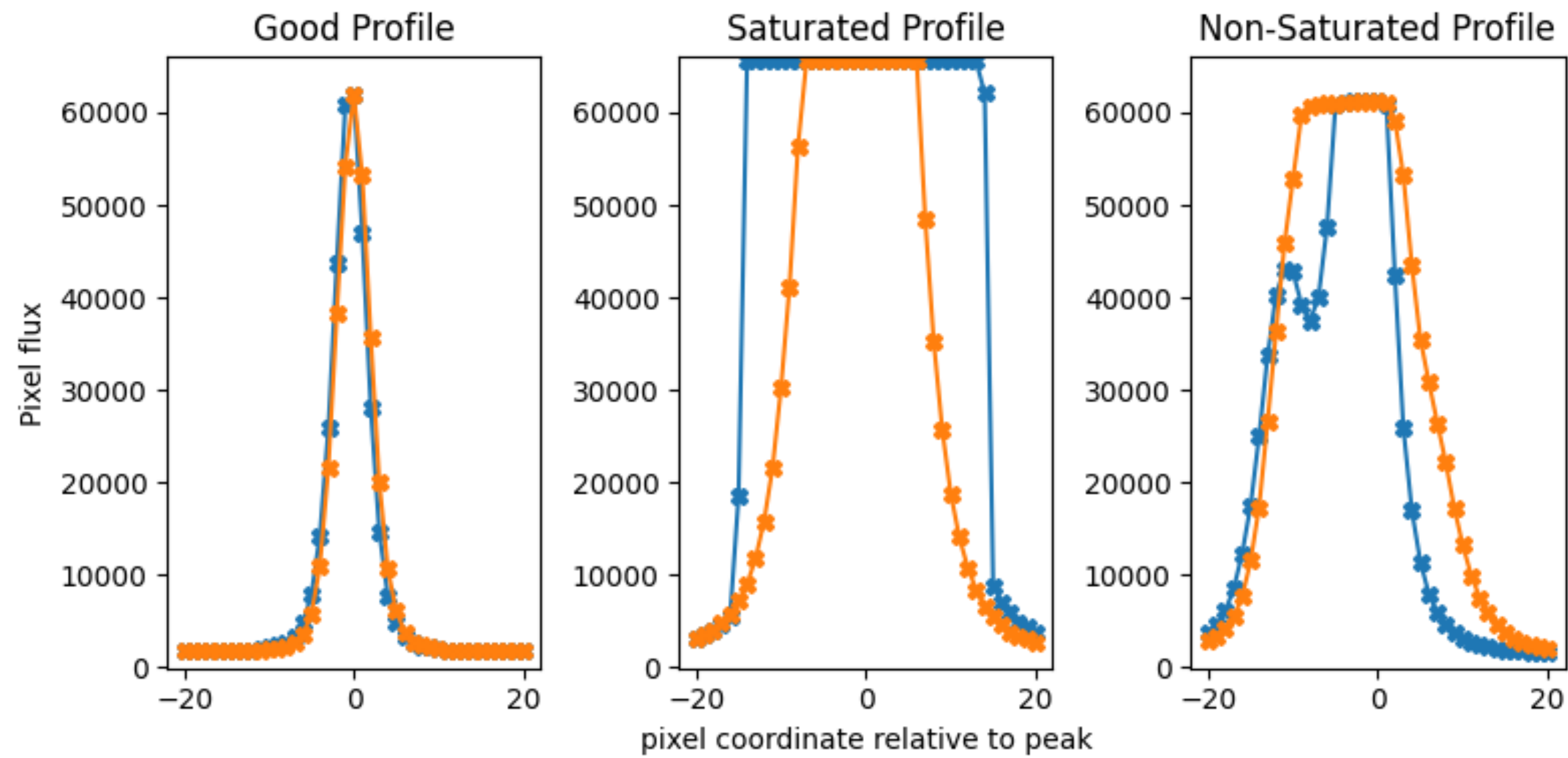
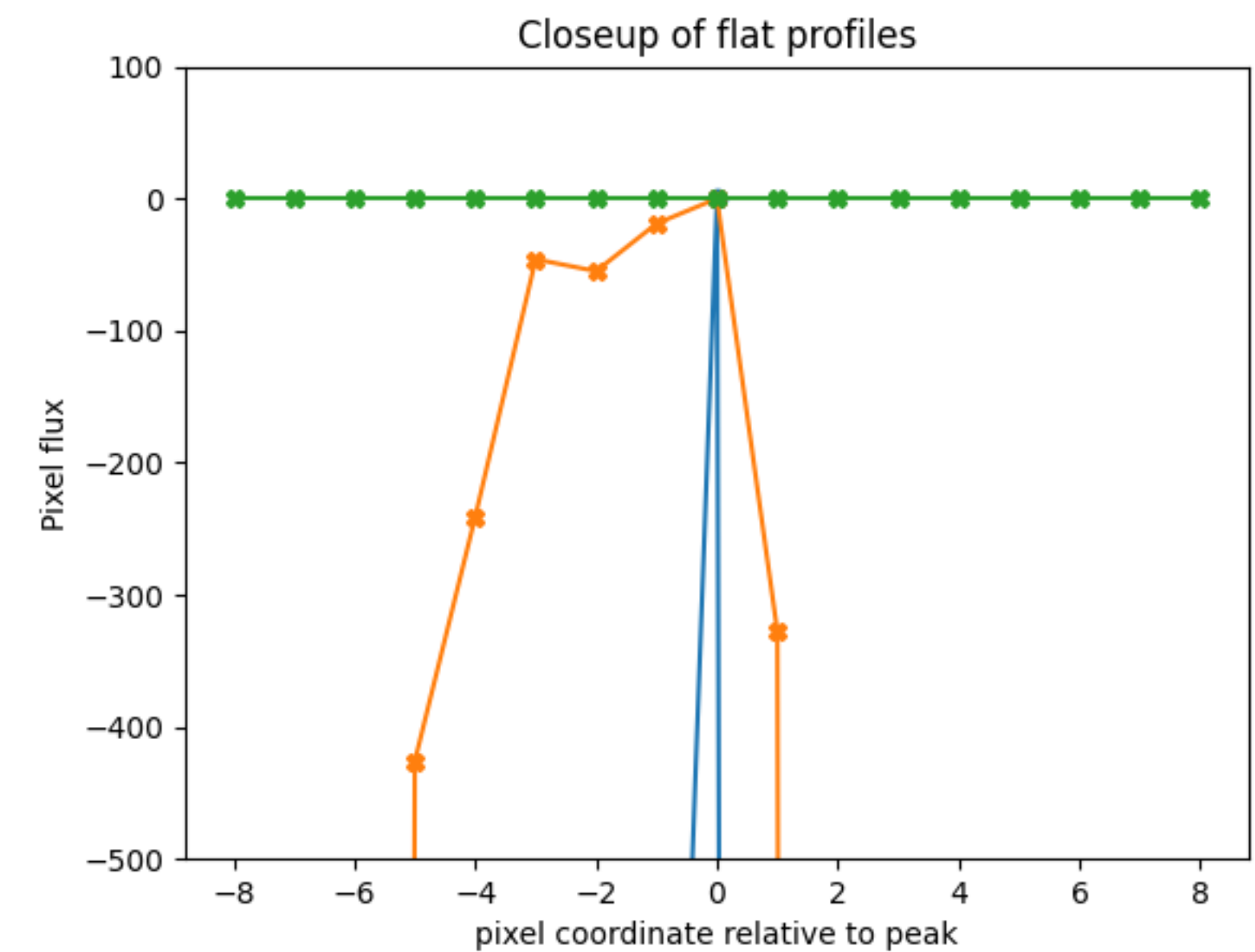


# Flat Topped Sources



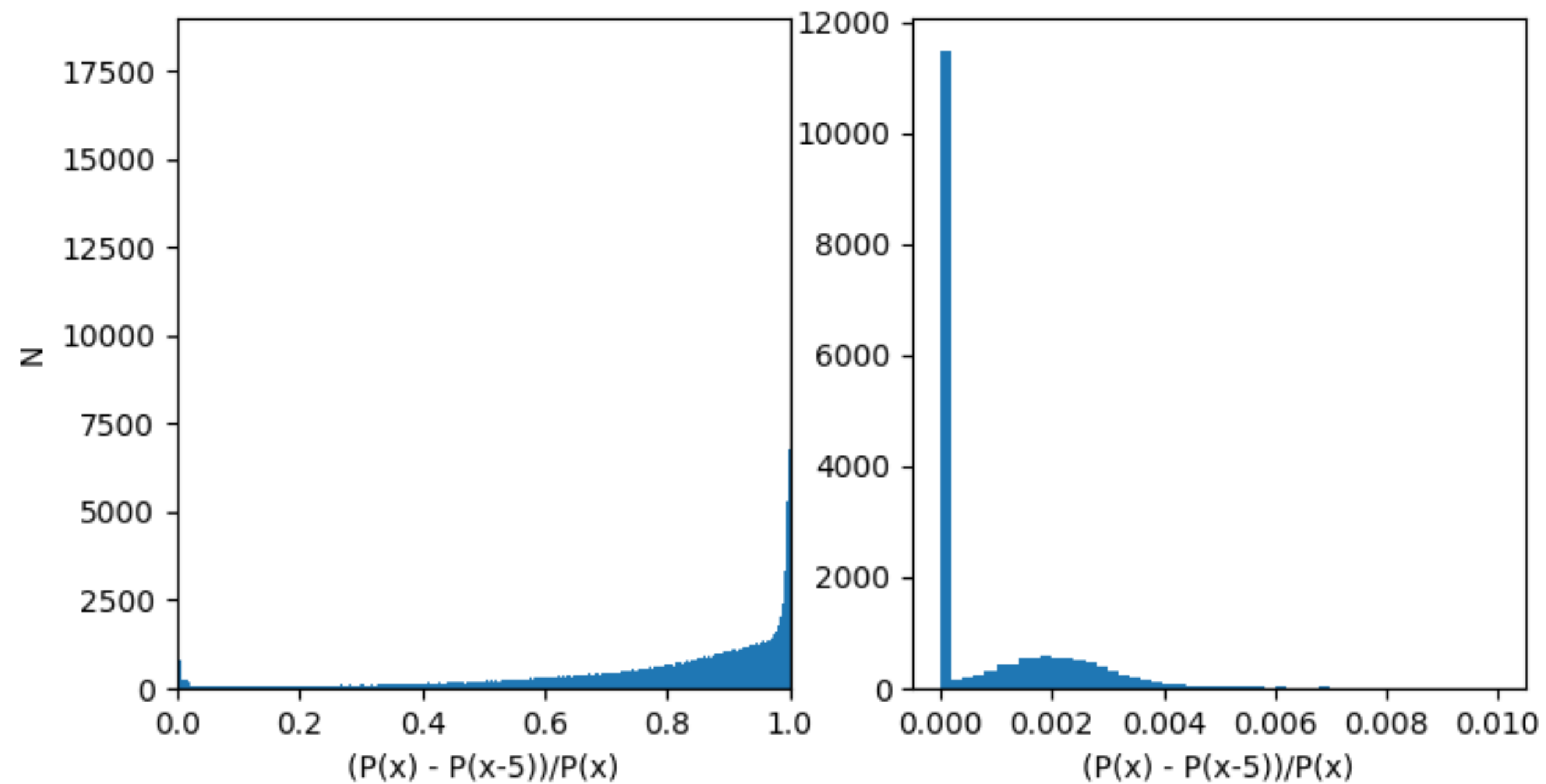
X and Y profiles of three bright sources, plotted on the same scale. The left panel is a bright source with a normal profile, the centre a saturated source, and the right a non-saturated but flat topped source. The lower panels show images of the same sources. The close-up panel shows the difference between saturated (green) and flat but unsaturated (orange), set to the same peak value; saturated sources are completely flat, the others are not.



# Diagnostic

$$(P(x_c, y_c) - P(x_c, y_c - 5)) / (P(x_c, y_c))$$

Value of the pixel at the peak, minus the value offset by five pixels in the y direction, scaled to the peak pixel. A value of 0 indicates a completely flat top, a value of 1 would be a hot pixel.



Diagnostic measure of flat tops. To the left, all sources, to the right a closeup of the small values.

Values of zero show the saturated sources, the lower broad peak centred at 0.002 shows the other flat sources. More normal sources cluster on the right side of the left panel; there are a range of values depending on seeing and focus. Non stellar sources, such as galaxies, will also show a range of values.