

Plot of bad skycells near the North Pole

A detailed analysis of the astrometry of PanSTARRS images near the North Pole shows that a relatively small number of skycells suffered from poor cross-registration in the original processing. Cross-registration issues can result in poor stacking of images, faulty measurements (magnitudes too faint, source extent and shape inaccurate, cross-filter misregistration), and generally poor depth and quality for mean and stack objects. We have reviewed and quantified the cross-registration for all skycells North of +70 in the three deeper bands, g, r, and i, and identified questionable skycells via the internal positional dispersion of mean objects with at least five detections (in a given band). The plots below show the distribution of skycells with at least 5%, 10%, or 20% of mean objects with an internal scatter exceeding 1.5 pixels, shown in orange, red, and purple, respectively.



skyplot_g_width.pdf



skyplot_r_width.pdf



skyplot_i_width.pdf

The affected skycells are listed in this [Table of bad skycells](#).

Sources in areas marked as orange, red, or purple in the above plots have been set to invalid. However, images of these regions may still be usable for limited, non-quantitative purposes, and are available to users - but should be used with care.