Background Subtraction Algorithms

Radial background

- per-event evaluates 2-d polar histogram of intensities and subtract it from imaging n-d array. Polarization correction and bin interpolation for imaging n-d array are also included.
- Refs: Radial Background Subtraction Algorithm, self-doc, method polarization_factor, example of analysis, code examples test01-03

Median filter

- input imaging n-d array is treated per event as a set of 2-d frames for two lowest indexes. For each pixel of the 2-d frame median intensity is evaluated using a group of nearest pixels located in the circular region defined by the radial parameter rank (`rrank`). If input array has a number of dimensions exceeding 2 the numpy.shape of output array is reduced to 3-d.
- Refs: self-doc, method median_filter_ndarr, code examples example01-03

Normalized fixed-shape background

- averaged background array (evaluated in advance and retrieved once from file or from `.../calib/pixel_bkgd/` by `det.bkgd(run)`) is subtracted from imaging array. Normalization factor is evaluated using pixel intensity in windows (parameter `winds`). It is assumed that windows specifies regions with dominating background and small amount of signal.
- Refs: self-doc, method subtract_bkgd, example of analysis, code example test_01

References

- Radial background: Radial Background Subtraction Algorithm, self-doc, method polarization_factor, example, code examples test01-03
- Median filter: self-doc, method median_filter_ndarr, code examples example01-03
- Fixed-shape background: self-doc, method subtract_bkgd, example of analysis, code example test_01