



# A fast 2D image reconstruction algorithm from 1D data for the Gaia mission

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A fast 2-dimensional image reconstruction method is presented, which takes as input 1-dimensional data acquired from scans across a central source in different orientations. The resultant reconstructed images do not show artefacts due to non-uniform coverage in the orientations of the scans across the central source, and are successful in avoiding a high background due to contamination of the flux from the central source across the reconstructed image. Due to the weighting scheme employed this method is also naturally robust to hot pixels. This method was developed specifically with Gaia data in mind, but should be useful in combining data with mismatched resolutions in different directions.

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