Error Estimation for the Reconstruction Algorithm with Fan Beam Geometry

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Abstract : Shannon theory is an exact method to recover a band limited signals from its sampled values in discrete implementation, using sinc interpolators. But sinc based results are not much satisfactory for band-limited calculations so that convolution with window function, having compact support, has been introduced. Convolution Backprojection algorithm with window function is an approximation algorithm. In this paper, the error has been calculated, arises due to this approximation nature of reconstruction algorithm. This result will be defined for fan beam projection data which is more faster than parallel beam projection.