# A Fast Version of the Generalized Multi-Directional Radon Transform

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**Abstract :** This paper presents a new fast version of the generalized Multi-Directional Radon Transform method. The new method uses the inverse Fast Fourier Transform to lead to a faster Generalized Radon projections. We prove in this paper that the fast algorithm leads to almost the same results of the eldest one but with a considerable lower time computation cost. The projection end result of the fast method is a parameterized Radon space where a high valued pixel allows the detection of a curve from the original image. The proposed fast inversion algorithm leads to an exact reconstruction of the initial image from the Radon space. We show examples of the impact of this algorithm on the pattern recognition domain.