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Matthew Ferrara, Jason T. Parker and Margaret Cheney* (cheney@math.colostate.edu).

Resolution Optimization with Irregularly Sampled Fourier Data.

Image acquisition systems such as synthetic-aperture radar and magnetic resonance imaging often measure irregularly spaced Fourier samples of the desired image. In this work we show the relationship between sample locations, their associated backprojection weights, and image resolution as characterized by the resulting point-spread function. Two new methods for computing data weights, based on different optimization criteria, are proposed. (Received September 16, 2014)