

A convex approach to super-resolution and, regularization of lines in images

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We present a new convex formulation for the problem of recovering lines in degraded images. Following the recent paradigm of super-resolution, we formulate a dedicated atomic norm penalty and we solve this optimization problem by means of a primal-dual algorithm. This parsimonious model enables the reconstruction of lines from lowpass measurements, even in presence of a large amount of noise or blur. Furthermore, a Prony method performed on rows and columns of the restored image, provides a spectral estimation of the line parameters, with subpixel accuracy.

Références