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ITERATIVE WAVEFRONT RECONSTRUCTION IN ADAPTIVE OPTICS

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Obtaining high resolution images of space objects from ground based telescopes is challenging, and often requires computational post processing using image deconvolution methods. Good reconstructions can be obtained if the convolution kernel can be accurately estimated. The convolution kernel is defined by the wavefront of light, and how it is distorted as it propagates through the atmosphere. In this paper we describe the wavefront reconstruction problem, and more specifically, a new linear least squares model that exploits information from multiple measurements.