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Stellar Interferometry data analysis: a brute force approach to an inversion problem RYAN PRICE, STEPHAN LEBOHEC, PAUL NUNEZ, University of Utah Dept. of Physics and Astronomy — Stellar Interferometers provides measurements of the Fourier transform of the observed star image. With some techniques the phase information is lost and a direct inverse Fourier transform can not be used. However, it may be possible to evaluate the inverse Fourier transform of the data by using a more brute force method. The Fourier transform of an initial guess of the image is compared with the actual data by means of a chi2. The image is then optimized using a gradient method to minimize the chi2. Clearly this approach has severe limitations but seems to be usable as a post-processing technique for images obtained from more sophisticated phase recovery analyses. Advantages and disadvantages of this method are discussed and example applications are presented.

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