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Blind deconvolution seeks to deblur an image without knowing the cause of the blur. Iterative methods are commonly applied to that problem, but the iterative process is slow, uncertain, and often ill-behaved. This talk considers significant but limited classes of blurs that include out of focus as well as Gaussian and Lorentzian blurs and their convolutions. For such blurs, methods are developed that can detect the point spread function from 1-D Fourier analysis of the blurred image. A separate image deblurring technique uses this detected point spread function to deblur the image. Each of these two steps uses direct non-iterative methods, with interactive adjustment of parameters. As a result, blind deblurring of  $512 \times 512$  images can be accomplished in minutes of CPU time on current desktop workstations. Application to real and synthetically blurred images will be demonstrated. (Received June 27, 2000)