

Durnin, Miceli, and Eberly Reply: The analogy of a Bessel beam to a line image is indeed a valid one. It must be noted, however, that *any* beamlike field (i.e., a field possessing a central maximum along the axis of propagation) can be interpreted as a line image. This follows from the fact that any field propagating in free space can be viewed as a superposition of plane waves (the so-called angular spectrum representation¹). Whether it be a Bessel, Gaussian, or any other beamlike field, the resulting interference of plane waves is such that there exists a maximum, or “line image,” along the axis of propagation. In no case does the energy in the central maximum propagate directly along the beam axis in free space.

The term “axicon” was coined by McLeod² to cover a class of optical elements which produce line images. Both our experimental setup³ for approximating a Bessel beam and that⁴ for creating a Poisson spot fall into this

general category. Of course, the fact that one produces a line image does not imply that the field will necessarily exhibit the characteristics of a Bessel beam.

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¹See, for example, J. W. Goodman, *Introduction to Fourier Optics* (McGraw-Hill, New York, 1968).

²J. H. McLeod, *J. Opt. Soc. Am.* **44**, 592 (1954).

³J. Durnin, J. J. Miceli, Jr., and J. H. Eberly, *Phys. Rev. Lett.* **58**, 1499 (1987).

⁴D. DeBeer, S. R. Hartmann, and R. Friedberg, preceding Comment [*Phys. Rev. Lett.* **59**, 2611 (1987)].