

## C3.0

THE POINT SPREAD FUNCTION

A third useful parameter in describing an optical imaging system is the Point Spread Function (PSF). In an analogy to the airy pattern, the PSF represents all of the first order and higher order aberrations in an imaging system.

It is sometimes characterized for a particular instrument as a central maximum with secondary maxima, as in an antenna pattern; at other times it is appropriate to represent it as a Gaussian intensity distribution. PSF are arbitrarily given for 50% to 90% of the 'encircled energy', depending upon the purpose of the analysis. There is no universally agreed upon definition.