Mathematical calculation of eyes geometry on point spread function in human retina

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Abstract

Structural geometry of eye and its optical function have important effect on point spread function and determine quality of eye resolution. Corneal, lens and retinal curvature and arrangement of photoreceptors on retina are important factors involved in these two functions. Spherical shapes of cornea not only increase width of visual field but also potentiate intensity of light on retina. The opposite curvature of retina to cornea increase resolution of image on retina and augment intensity of light from fixation point object than surrounding objects. Here we presented an equation point spread function of light on retina without considering of pupil role. Also we proposed table for showing of simultaneous effects of light and photoreceptors distribution on retinal output.

References


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