

Answer on Question #49208 - Physics - Other

What evidence supports the view that light has particle properties? What evidence supports the view that light has particle properties?

Experimentally it is Young's experiment (which you can do yourself easily), where you shine light through a pair of narrow slits close to each other. You get a pattern of 'fringes,' or light and dark bands off to each side of the bright fringe down the centerline of the apparatus. These are strong evidence for each slit being a source of waves that interfere constructively or destructively for different combinations of path lengths from the slits to the screen you project the fringes upon.

Theoretically, Maxwell's equations describe a wave that consists of oscillating electric and magnetic fields that are perpendicular to each other, in phase, and travel at a speed of 1 over the square root of the product of the permittivity and permeability constants. It turns out that light travels at exactly that speed and its electric and magnetic behavior fits with other predictions of the theory.

[I recommend to watch the video:](#)

https://www.youtube.com/watch?v=Xmq_FJd1oUQ