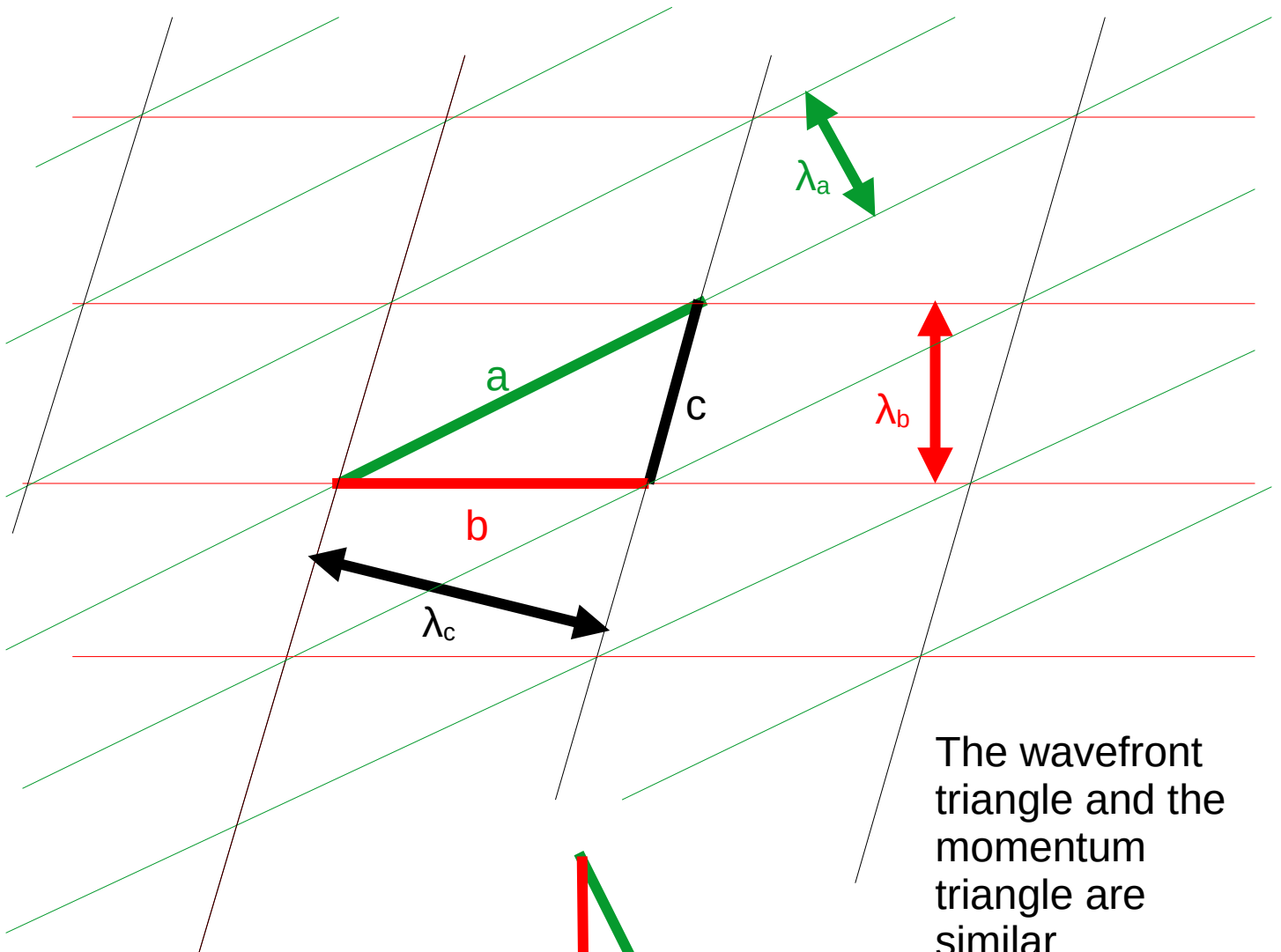


An electron absorbs a photon at the apex of a light cone shown as interference between plane waves



The wavefront triangle and the momentum triangle are similar

Electron momentum before absorption
 $p_b = h/\lambda_b$

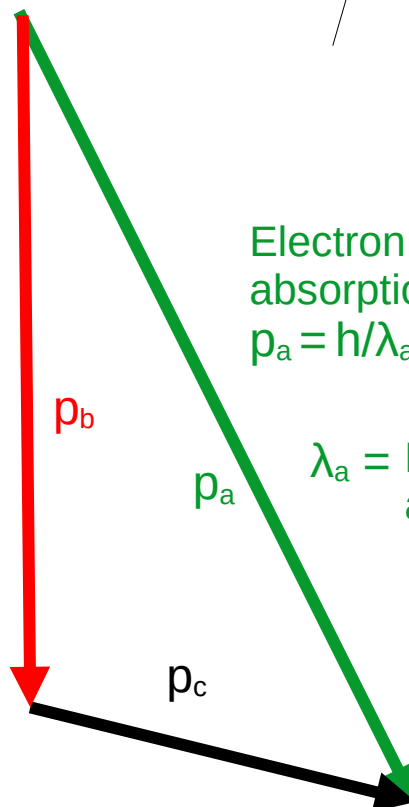
$\lambda_b =$ Electron wavelength before absorption

Photon momentum
 $p_c = h/\lambda_c$

$\lambda_c =$ Photon wavelength

Electron momentum after absorption
 $p_a = h/\lambda_a$

$\lambda_a =$ Electron wavelength after absorption



$h =$ Planck's constant