

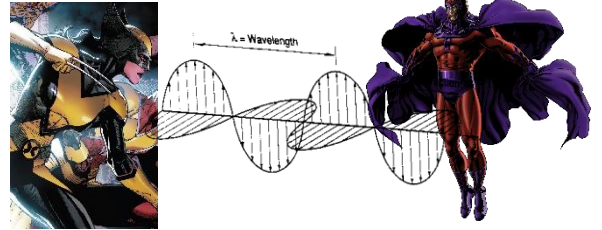
Discussion Week 12 Question 1

Cyclops, the leader of the X-Men, charges in at a gigantic sentinel, and releases an optic blast with a center wavelength of 300nm from his eyes, torching the sentinel. If we treat Cyclops's eyes as a laser with a wavelength width of 50nm, what is the frequency width and average energy of a photon in his optic blast?



Discussion Week 12 Question 2

X-23 runs towards Magneto, claws out, towards the fearsome Magneto, master of magnetism. Magneto intuitively sends an electromagnetic wave towards X-23 with a B_m of 20T. What is the intensity and speed of the propagating electromagnetic wave?



Discussion Week 12 Question 3

As the phoenix force takes over Jean Grey, she creates a highly pressurized plasma about herself, keeping the X-men away from her. Cyclops in an attempt to stun phoenix, fires an optic blast (which behaves like a laser) of a peak power of 10KW at the plasma shield around Jean. His optic blast doesn't even penetrate, instead, the beam is reflected by a 0.25m^2 contact area, stunning the other X-Men. What must the pressure on the plasma be to cause such a total reflection?

