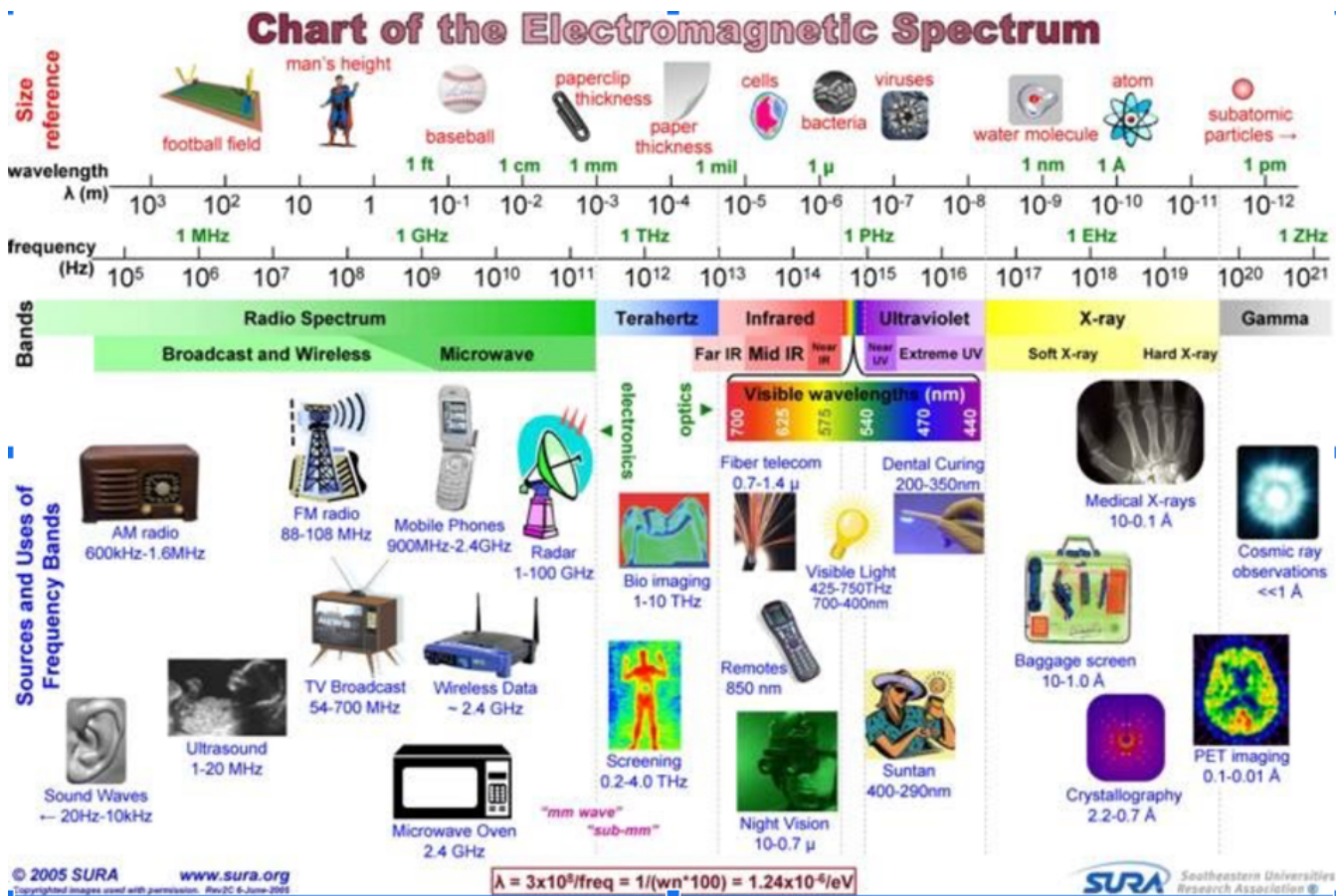




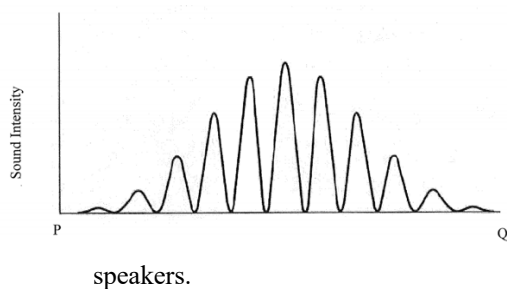
Interference pattern: $\Delta x = \frac{L\lambda}{d}$

Path Difference Path diff point P on nodal line (destructive int):

$$PS_1 - PS_2 = \frac{1}{2}\lambda, 1\frac{1}{2}\lambda, 2\frac{1}{2}\lambda \text{ etc}$$

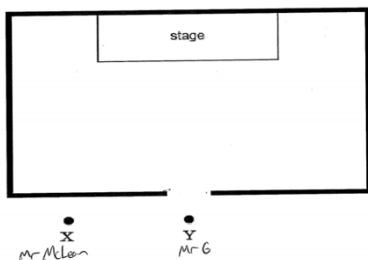
Path diff point P on maxima (constructive int):

$$PS_1 - PS_2 = 0\lambda, 1\lambda, 2\lambda, 3\lambda \text{ etc}$$



Explain the graph:

- Superposition of coherent waves form an interference pattern
- Where the P.D is a whole number of wavelengths, waves arrive in phase and constructively interfere to give high intensity.
- Where P.D = $(n-1/2) \times \text{wavelength}$, waves arrive out of phase and destructively interfere giving minimum intensity.
- The peaks drop off from the centre as they are further away from the



After the performance Mr Mclean and Mr G are discussing their measurements. Compare the intensity of the high frequencies and low frequencies at Mr Mclean and Mr G's positions. Refer to relevant physics in your answer.