(7)

$$\mu = \frac{\sin i}{\sin r} \quad \text{[illegible]}$$

$$\mu = \sqrt{1 - \frac{81 N}{f^2}} \qquad i = 0,\ \mu = \mu_m$$

$$f = f_c$$

$$\mu = \frac{\sin i}{\sin r} = \sqrt{\left(1 - \frac{81 N_m}{f_c^2}\right)} = 0$$

$$\boxed{f_c = 9\sqrt{(N_m)}}$$

(i) N_m → maximum electron density

(ii) Frequency reflected from the layer $\mu = 0$ for an angle of incidence i called MUF max. usable frequency

(iii) Critical frequency give idea the radio wave frequency should to fall than critical frequency.

$$\sin i > \mu_m$$

$$\sin i \Rightarrow \sqrt{\left(1 - \frac{81 N}{f^2}\right)}$$

$$\sin i \Rightarrow \sqrt{\left(1 - \frac{f_c^2}{f^2}\right)}$$