1 Ampere-Maxwell law

$$\oint \mathbf{B}.d\mathbf{l} = \mu_0(I + I_D)$$

2 Poynting vector

$$S = \frac{1}{\mu_0}\mathbf{E} \times \mathbf{B}$$

3 Average electric energy density

$$U_E = \frac{1}{2}\varepsilon_0 E^2 = \frac{1}{4}\varepsilon_0 E_0^2$$

4 Average magnetic energy density

$$U_B = \frac{1}{2}\frac{B^2}{\mu_0} = \frac{1}{4}\frac{B_0^2}{\mu_0}$$

5 Critical frequency $v_c = 9(N_{max})^{1/2}$

6 Skip distance $(D_{skip}) = 2h(\frac{v_{max}}{v_c})^2 - 1$

7 Effective range in space wave propagation

$$d = \sqrt{2Rh_T} + \sqrt{2Rh_R}$$

8 Principle of meter bridge or slide wire bridge

$$\frac{P}{Q} = \frac{l}{100 - l} = \frac{R}{S}$$