MTEOR 301 - Equation sheet - Exam #2

- $\sigma = 5.67x10^{-8}\frac{W}{m^2\ deg}$

- $k = 1.381x10^{-23}\frac{J}{deg\ molecule}$

- $h = 6.63x10^{-34}Js$

- $c_1 = 3.74x10^{-16}\frac{W}{m^2}$

- $c_2 = 1.44x10^{-2}mK$

- $\rho_l = 1000\frac{kg}{m^3}$

- $r\frac{dr}{dt} = G_lS$

- $S = \frac{e-e_s}{e_s}$

- $r = \frac{2\sigma}{nkTln\frac{e}{e_s}}$

- $\frac{dr_1}{dt} = \frac{v_1W_lE_c}{4\rho_l}$

- $E_\lambda^* = \frac{c_1}{\lambda^5\left[e^{\frac{c_2}{\lambda T}}-1\right]}$

- $\lambda_{max} = \frac{2880\mu m}{T}$

- $E^* = \epsilon\sigma T^4$

- $E_\lambda(z) = E_\lambda(\infty)e^{-\sigma_\lambda}$

- $\sigma_\lambda = sec\phi \int k_\lambda\rho\ dz$

- $\mu = sec\phi \int \rho\ dz$