

Some Equations, etc.Stefan-Boltzmann law: $E^* = \sigma T^4$

$$\sigma_\lambda = \sec \phi \int_z^\infty k_\lambda \rho dz$$

Wein displacement law: $\lambda_m[\mu\text{m}] = 2987/T$

$$E_\lambda = E_{\lambda_\infty} \exp\{-\sigma_\lambda\}$$

droplet growth:

$$(a) \quad \frac{dr}{dt} = \frac{G_1 S}{r}$$

$$r = \frac{2\sigma}{nkT \ln\left(\frac{e}{e_s}\right)}$$

$$(b) \quad \frac{dr}{dt} = \frac{vw_1 E}{4\rho_l}$$

$$E_{\text{out}} = E_{\text{in}} \frac{(1-A)}{4}$$

$$E = \varepsilon \sigma T^4$$

Some Constants

$$\sigma = 5.67 \times 10^{-8} \text{ W m}^{-2} \text{ deg}^{-4}$$

$$h = 6.6262 \times 10^{-34} \text{ J}$$

$$k = 1.381 \times 10^{-23} \text{ J deg}^{-1} \text{ molecule}^{-1}$$

$$\rho_l = 10^3 \text{ kg m}^{-3}$$