A Practical Guide To Optical Metrology For Thin Films

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ERRATA

Page 35:
Eqs. (2.85) and (2.86) must be

$$\varepsilon_1 = n^2 - \kappa^2 \tag{2.85}$$

$$\varepsilon_2 = 2 \cdot n \cdot \kappa \tag{2.86}$$

Page 41:
With this *Tauc-Lorentz model* the imaginary part of the complex dielectric function of amorphous materials with band gap (mainly semiconductor materials) can be modeled as

$$\varepsilon_{2TL}(\omega) = \begin{cases} \dfrac{S}{\omega} \dfrac{\omega_{res}^2 \cdot \gamma \cdot (\omega - \omega_{gap})^2}{(\omega^2 - \omega_{res}^2)^2 + \omega^2 \gamma^2} & \omega > \omega_{gap} \\ 0 & \omega \le \omega_{gap} \end{cases} \tag{2.106}$$

The oscillator has a resonance frequency ω_{res}, a damping constant γ and an oscillator strength S. ω_{gap} is the frequency corresponding to the band gap energy $E_{gap} = \hbar\omega_{gap}$. Note that in the original paper, the formula is expressed in terms of photon energies. Moreover, the square of ω_{res} is missing there.