

$$\frac{d\varepsilon_a}{d\omega} = \frac{\alpha_{\text{EM}}^2 g_{aee}^2}{4\pi^3 m_e^2} \frac{\omega^3}{e^{\omega/T} - 1} \sum_s \frac{Z_s^2 \rho_s F_s}{A_s u}$$