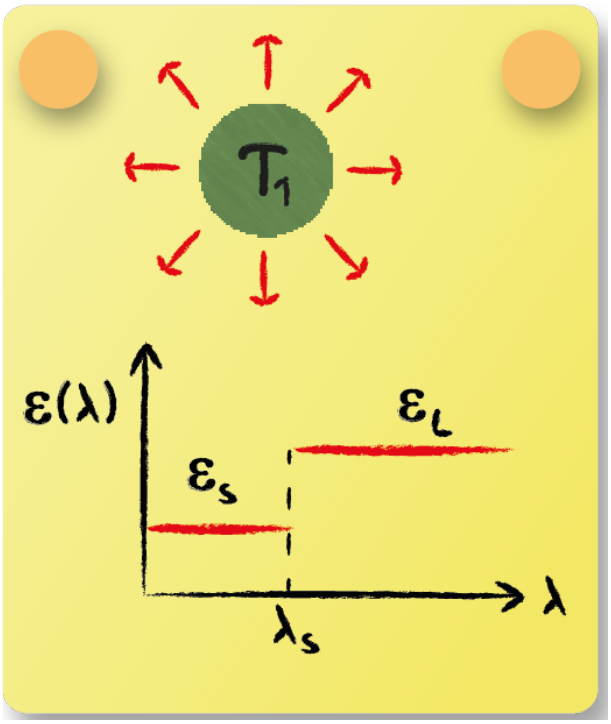
Variable Properties: Task 5



The emissivity of a body is dependend on wavelength. The diagram shows the emissivity for body 1, which is given by ϵ_S for wavelength shorter and ϵ_L for wavelength longer than λ_S.

1 $\dot{q}_{1,\epsilon} = \dot{q}''_b[\epsilon_S F_{0\to\lambda_S} + \epsilon_L(1 - F_{0\to\lambda_S})]$

2 An expression for body 1's emitted radiation is obtained from the product of black body radiation $\dot{q}''_b$ and the sum of emissivity coefficients, which are weighted by function $F_{0\to\lambda_i}$.