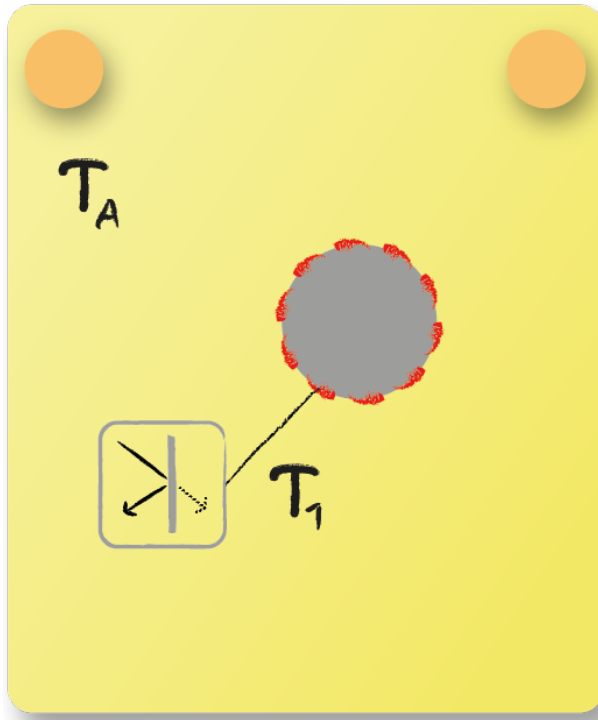


Surface Brightness: Task 5



The image shows a grey body, which is transmitting and reflecting arriving radiation.

1



$$\dot{Q}_1 = \sigma \cdot \epsilon_1 \cdot A_1 \cdot T_1^4 + \sigma \cdot (1 - \epsilon_1) \cdot A_1 \cdot T_A^4$$

2



The surface brightness of the grey body is composed of its emission, reflection and transmission. The sum of α , ρ and τ equals 1, such that the sum of ρ and τ can be expressed as $1 - \alpha$, which according to Kirchhoff is equal to $1 - \epsilon$.