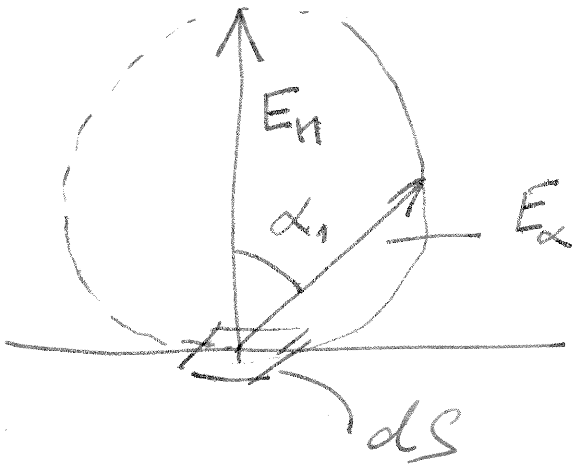


$E_\alpha = E_n \cdot \cos\alpha$

Lambert.

vyzařuje spoledinky!

$$d^2Q = E_n \cdot \cos\alpha_1 \cdot dS \cdot d\Omega$$

linearita vůči úhlu a ploše, jsou-li malé

celkem:

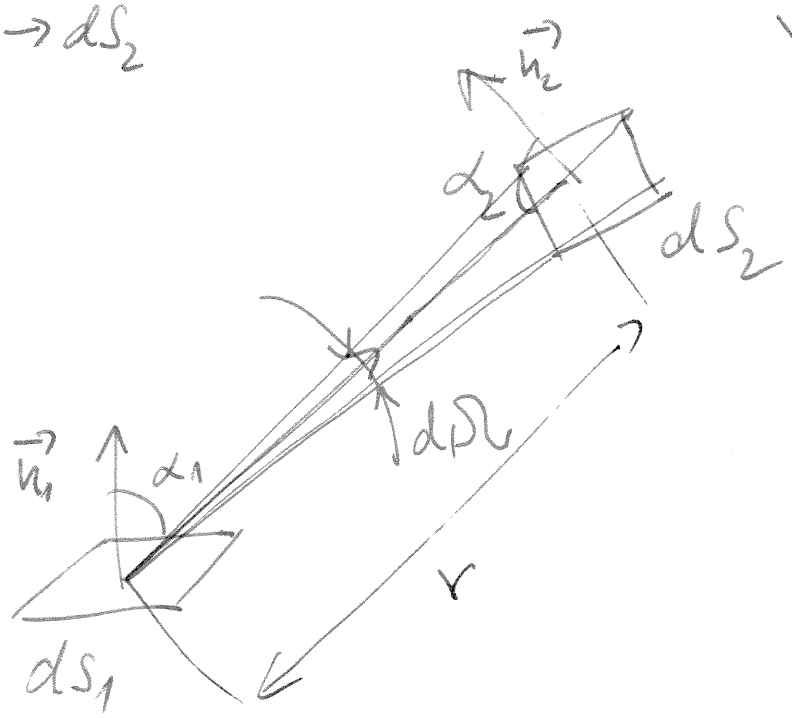
$$d^1Q = \int_{\Omega} d^2Q = dS \cdot E_n \cdot \int_{\varphi=0}^{2\pi} \underbrace{\int_{\alpha=0}^{\frac{\pi}{2}} \cos\alpha_1 \cdot \sin\alpha_1 \, d\alpha_1}_{\frac{1}{2}} d\varphi$$

$$= E_n \cdot dS \cdot 2\pi \cdot \frac{1}{2} \Rightarrow$$

$$E_n = \underbrace{\frac{dQ}{dS}}_{Q_r} \cdot \frac{1}{\pi}$$

$$dQ_{dS_1 \to dS_2} = E_1 \cdot \cos\alpha_1 \cdot dS_1 \cdot \underbrace{\frac{\cos\alpha_2 \, dS_2}{r^2}}_{d\Omega} =$$

$d\Omega$ pod kterým vidíme dS_2 z dS_1



$$= \varrho_r \cdot \frac{1}{\pi} \cdot \frac{\cos\alpha_1 \cos\alpha_2}{r^2} dS_1 dS_2 = dQ_{dS_1 \to dS_2}$$

$$\frac{W}{m^2} \quad 1 \quad m^{-2} \quad m^2 m^2 = W$$

$$\varphi_{dS_1 \to dS_2} = \frac{dQ_{dS_1 \to dS_2}}{dQ_{dS_1 \to \text{vše}}} = \frac{\varrho_r \frac{1}{\pi} \frac{\cos\alpha_1 \cos\alpha_2}{r^2} dS_1 dS_2}{\varrho_r \cdot dS_1}$$

konfigurační faktor

$$= \frac{1}{\pi} \cdot \frac{\cos\alpha_1 \cos\alpha_2}{r^2} dS_2$$

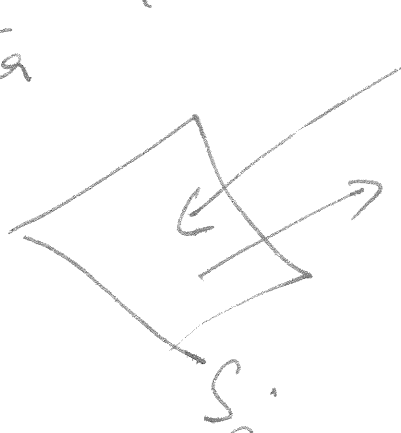
$$\varphi_{S_1 \to S_2} = \frac{\not{d}Q_{S_1 \to S_2}}{\not{d}Q_{S_1 \to \text{vše}}} =$$

$$= \frac{1}{S_1 \cdot 2r} \cdot \int_{y_1} \left(\int_{y_2} \varphi_{dS_1 \to dS_2} \cdot 2r \cdot \right) dS_1 =$$

$$\varphi_{S_1 \to S_2} = \frac{1}{S_1 \pi} \cdot \int_{y_1} \int_{y_2} \frac{\cos\alpha_1 \cos\alpha_2}{r^2} \, dS_1 dS_2$$

$$S_1 \varphi_{S_1 \to S_2} = S_2 \varphi_{S_2 \to S_1} \quad \|$$

Řešení obecného ustáleného sdílení tepla



$$Q_{\text{ruzné}} = \sum_j Q_{\text{vzj}} \cdot \varphi_{ji}$$

$$Q_{\text{oteplení}} = \varepsilon_i \cdot S_i \cdot T_i^4 \cdot \sigma$$

$$Q_{r\,zplod\,i} = Q_{r\,vlastní\,i} + (1-\xi_{n\cdot}) \cdot Q_{r\,na\,plochu\,n}$$