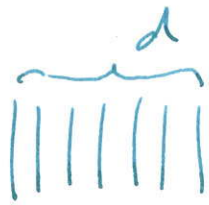
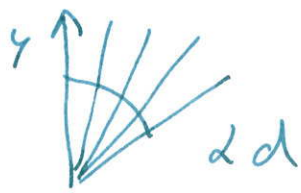
# Twist




N - vrstev

$$L_c = \begin{pmatrix} 1 & 0 \\ 0 & e^{-i\beta d} \end{pmatrix}$$




$$R(\theta) = \begin{pmatrix} \cos\theta & \sin\theta \\ -\sin\theta & \cos\theta \end{pmatrix}$$

$$\Delta z = \frac{d}{N}$$

$$C = \begin{pmatrix} 1 & 0 \\ 0 & e^{-i\beta\Delta z} \end{pmatrix}$$

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m-tý otočený kompenzátor $\theta_m$

$$C_m = R(-\theta_m)\, C\, R(\theta_m)$$

$$L = \prod_{m=N}^{1} R(-\theta_m)\, C\, R(\theta_m)$$

bude např.

$$R(-\theta_m)\, C\, \underbrace{R(\theta_m)\, R(-\theta_{m-1})}\, C\, R(\theta_{m-1})$$

$$R(\theta_m)\, R(-\theta_{m-1}) = R(\theta_m - \theta_{m-1})$$

$$= R(\Delta\theta) = R(\alpha\Delta z)$$

$$L = R(-\theta_N)\left[C\,R(\alpha\Delta z)\right]^{N-1} C \quad / \; R(\theta_1) = \hat{1}$$

$\beta \gg \alpha \Rightarrow R(\alpha\Delta z) \approx \hat{1}$

$$L \approx R(-\theta_N)\,C^N = R(-\alpha d)\begin{pmatrix} 1 & 0 \\ 0 & e^{-i\beta d} \end{pmatrix}$$

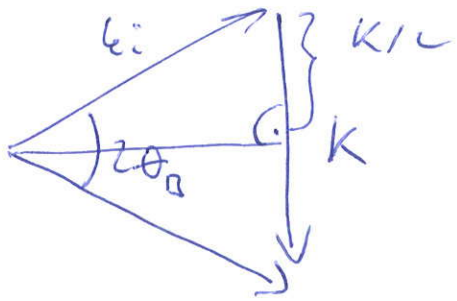
=

pokud signál lin. pol. v ose $y$

$$\boxed{L \approx R(-\alpha d)}$$ rotace lin. pol.

# Braggov relin

$$\sin\theta_B = \frac{\lambda}{2\Lambda}$$




$$\sin\theta_B = \frac{k/2}{k_i} = \frac{2\pi/\Lambda}{2 \cdot 2\pi/\lambda}$$

$$= \frac{\lambda}{2\Lambda} \quad \checkmark$$