

Vježba 1: Određivanje indeksa loma prizme

Prizma	α [rad]	$\hat{a} \pm \Delta a$ [cm]	$\hat{b} \pm \Delta b$ [cm]	$\hat{\delta} \pm \Delta \delta$ [rad]	$\hat{n} \pm \Delta n$

Kut minimuma devijacije: $\hat{\delta} = \arctg(\hat{a}/\hat{b}), \quad \Delta\delta = \frac{\cos^2 \hat{\delta}}{\hat{b}} (\Delta a + \Delta b \tan \hat{\delta})$

Indeks loma: $\hat{n} = \frac{\sin(\alpha/2 + \hat{\delta}/2)}{\sin(\alpha/2)}, \quad \Delta n = \frac{\cos(\alpha/2 + \hat{\delta}/2)}{2 \sin(\alpha/2)} \Delta\delta$

Vježba 2: Određivanje koeficijenta apsorpcije otopine

Model: $P_i = P(x_i; P_0, \alpha) = P_0 \exp(-\alpha x_i)$, linearizirano: $y_i \equiv \ln P_i = \ln P_0 - \alpha x_i \equiv a + b x_i$

i	x_i/cm	P_i/mW	$y_i = \ln(P_i/\text{mW})$	x_i^2/cm^2	$x_i y_i/\text{cm}$	y_i^2
1	2.0			4.00		
2	2.5			6.25		
3	5.0			25.00		
4	6.0			36.00		
5	8.0			64.00		
$N = 5$	$\sum_i x_i = 23.5$		$\sum_i y_i =$	$\sum_i x_i^2 = 135.25$	$\sum_i x_i y_i =$	$\sum_i y_i^2 =$

Pomoću izraza u odjeljku A.5 uputa za vježbe izračunati veličine:

$$\Delta = \quad \hat{a} = \quad \hat{b} = \quad \sigma_{\hat{b}} =$$

Koeficijent apsorpcije: $\hat{\alpha} = -\hat{b} =$

Standardna pogreška: $\sigma_{\hat{\alpha}} = \sigma_{\hat{b}} =$