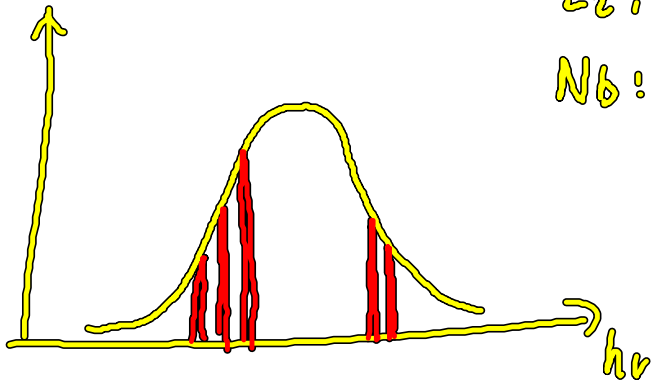
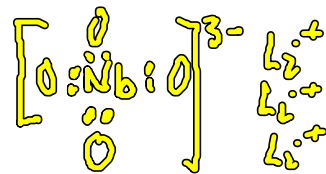
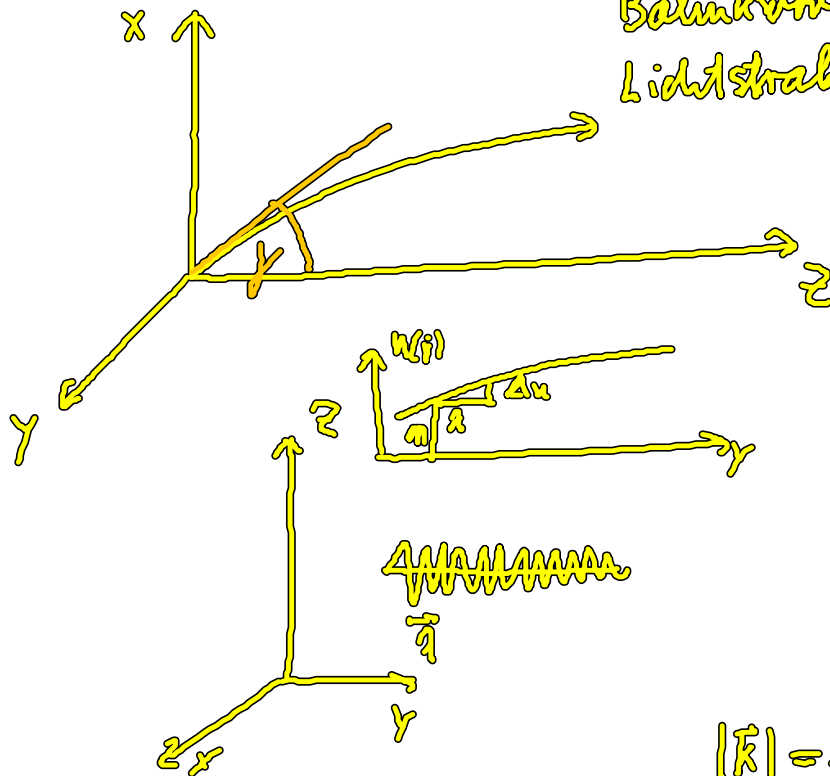


Kapitel 5. Optische Fasern



Ann. $\varphi=0$



$$|\vec{k}| = \frac{\omega}{v}$$

ebene Welle $\vec{E}(\vec{r}, t) = \vec{E}_0 \exp\{i(\omega t - \vec{k} \cdot \vec{r})\}$ $n = \text{konst}$

$$\vec{E}(\vec{r}, t) = \vec{E}_0 \exp\{i\omega(t - \frac{1}{v} \frac{\vec{k}}{|\vec{k}|} \cdot \vec{r})\}$$
 $k_0 = \frac{\omega}{c}$

mit $|\vec{k}| = \frac{\omega}{v} = \frac{\omega}{c} \frac{c}{v} = \frac{\omega}{c} n = k_0 n$

$$S(\vec{r}) = n \frac{\vec{k}}{|\vec{k}|} \cdot \vec{r} = \frac{1}{k_0 n} n \vec{k} \cdot \vec{r} = \frac{1}{k_0} \vec{k} \cdot \vec{r} \Rightarrow k_0 S(\vec{r}) = \vec{k} \cdot \vec{r}$$

in Falle $n(\vec{r}) = \text{konst}$