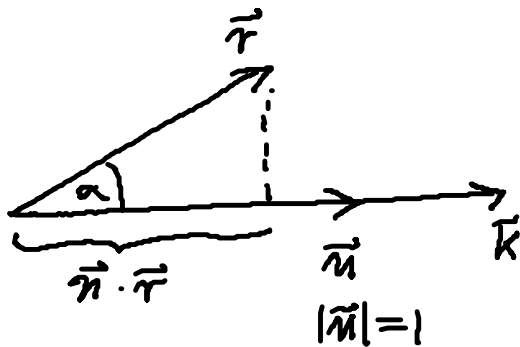
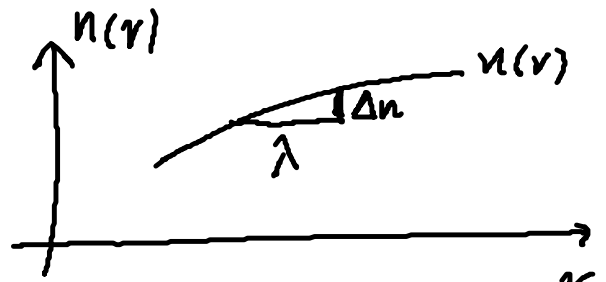
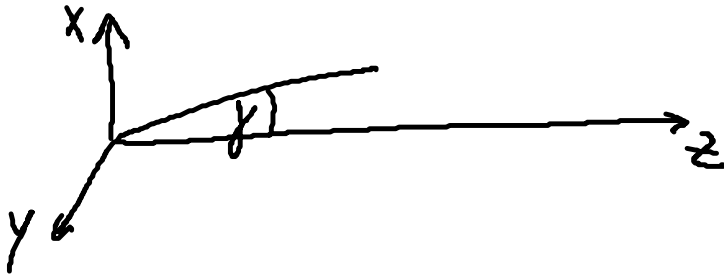


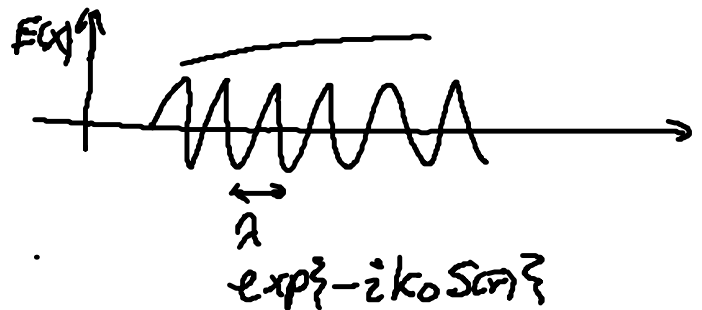
Biegung  $\sin\left\{\frac{1}{2}\vartheta\right\} = \frac{\lambda}{d} \frac{3.8}{2\pi}$

$\lambda = 1.5 \mu\text{m}$        $a = 2.5 \mu$        $\Rightarrow \vartheta = 21^\circ$

$a = 25 \mu$        $\Rightarrow \vartheta = 2^\circ$



$$\frac{\Delta x}{\lambda} \frac{\Delta n}{\Delta x} = \frac{\Delta n}{\lambda} < n$$



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

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

$$\vec{k} \cdot \vec{r} = n k_0 \vec{n} \cdot \vec{r} \longrightarrow k_0 S(\vec{r})$$

$$n \vec{n} \cdot \vec{r} \longrightarrow S(\vec{r})$$

$$\vec{E}(\vec{r}, t) = \vec{E}_0(\vec{r}) \exp\{-i k_0 S(\vec{r})\} \exp\{i\omega t\}$$