

5) Beugung am Gitter

Gitter 600 Linien/mm

$d = 600 \text{ Linien/mm}$

$k=1$

grün $\lambda = 500 \text{ nm}$

rot $\lambda = 700 \text{ nm}$

$$\varphi_1 = 19,5$$

$$\varphi_1 = 23$$

rechts

$$\varphi_2 = 18$$

$$\varphi_2 = 22$$

links

$d = 300 \text{ Linien/mm}$

$k=1$

$$\varphi_1 = 9,5$$

$$\varphi_1 = 11$$

$$\varphi_2 = 8,5$$

$$\varphi_2 = 10,5$$

$k=2$

$$\varphi_1 = 19$$

$$\varphi_1 = 23$$

$$\varphi_2 = 17,5$$

$$\varphi_2 = 21,5$$

$k=3$

$$\varphi_1 = 29$$

$$\varphi_1 = 35$$

$$\varphi_2 = 27,5$$

$$\varphi_2 = 34$$

$d = 100 \text{ Linien/mm}$

$k=1$

$$\varphi_1 = 3,5$$

$$\varphi_1 = 4$$

$$\varphi_2 = 2,5$$

$$\varphi_2 = 3,5$$

$k=2$

$$\varphi_1 = 7$$

$$\varphi_1 = 8$$

$$\varphi_2 = 5,5$$

$$\varphi_2 = 7$$

$k=3$

$$\varphi_1 = 10$$

$$\varphi_1 = 11,5$$

$$\varphi_2 = 8,5$$

$$\varphi_2 = 10,5$$

$k=4$

$$\varphi_1 = 13$$

$$\varphi_1 = 15,5$$

$$\varphi_2 = 11,5$$

$$\varphi_2 = 14,5$$

$k=5$

$$\varphi_1 = 16,5$$

$$\varphi_1 = 19,5$$

$$\varphi_2 = 15$$

$$\varphi_2 = 18$$

$k=6$

$$\varphi_1 = 19,5$$

$$\varphi_1 = 23,5$$

$$\varphi_2 = 18$$

$$\varphi_2 = 22$$

$k=7$

$$\varphi_1 = 23$$

$$\varphi_1 = 27,5$$

$$\varphi_2 = 21,5$$

$$\varphi_2 = 26$$

$k=8$

$$\varphi_1 = 26,5$$

$$\varphi_1 = 32$$

$$\varphi_2 = 24,5$$

$$\varphi_2 = 30$$

$k=9$

$$\varphi_1 = 30$$

$$\varphi_2 = 28$$

~~$\varphi_1 = 35$~~

W