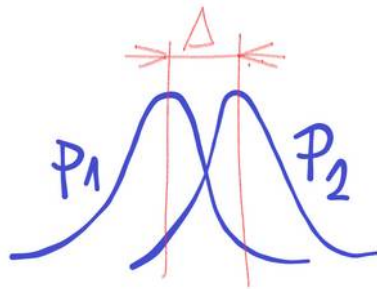# The resolving power vs. regulation

The resolving power vs. probability, there is a limit where our resolving power is finished.

See an equation for the resolving power of two peaks of electromagnetic (ELMG) waves after their difraction throught an aperture – Fig. 1 and Eq.1.

$$\psi = 1{,}22 * \left(\frac{\lambda}{d}\right) \qquad \textbf{(1)}$$

Fig.1 – two closely peaks of intensity of ELMG waves

In eq. 1 there is

ψ – the angle from the aperture
λ – the wavelenght
d – the diameter of the aperture

But our resolving power must to grow. The regulation vs. Heisenberg principle. The limits of the regulation process is tightly connected with the limits of the resolving power, especially with the Heisenberg theorem.

What about a lot of peaks? Are there a lot of peaks or is there only one line there? See the Fig.2.
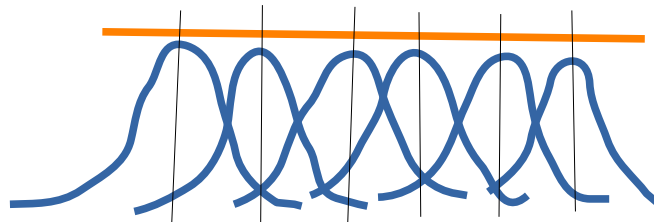

Fig.1 – a lot of closely peaks of intensity of ELMG waves

How to recognize the number of peaks in one line? Especially if the peaks are „living" or better to write they have changing all the time. Some of peaks are resolved after a moment and some of ones have dissapeared after the same moment. How many peaks are there really?

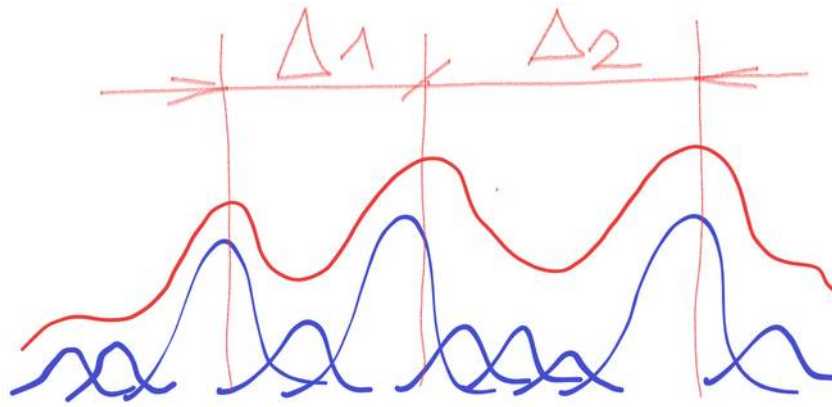After a moment we see another image - see Fig. 3.

Fig.3 – three "visible" closely peaks of intensity of ELMG waves

to be continued