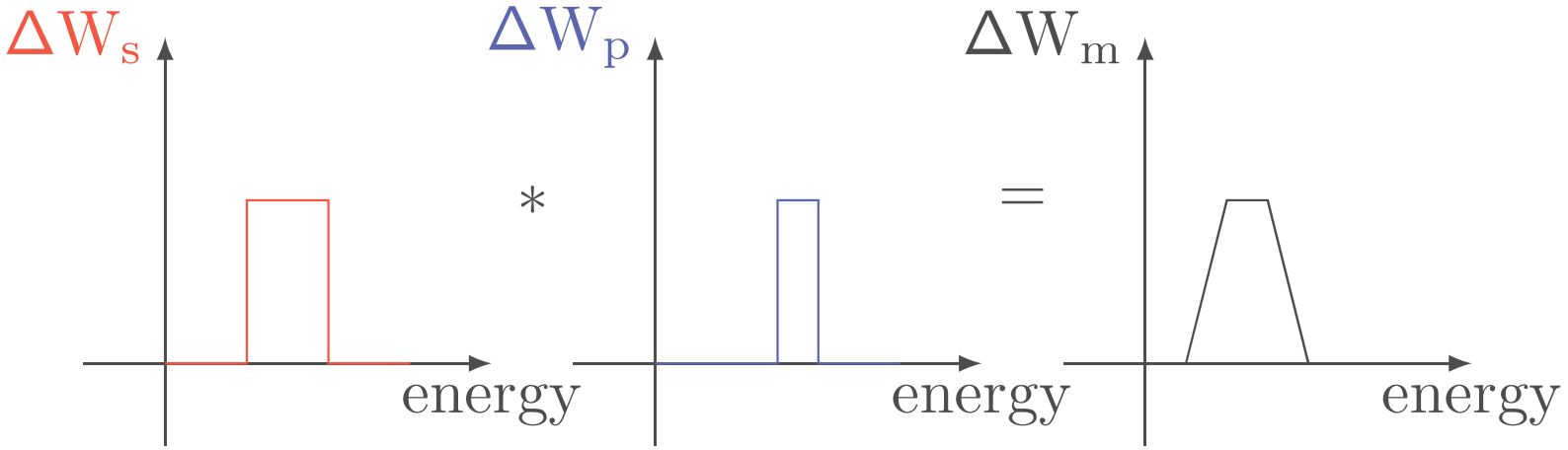
How to increase resolving power numerically ?

It is a deconvolution problem



Just need to inverse the problem with a Fourier transform

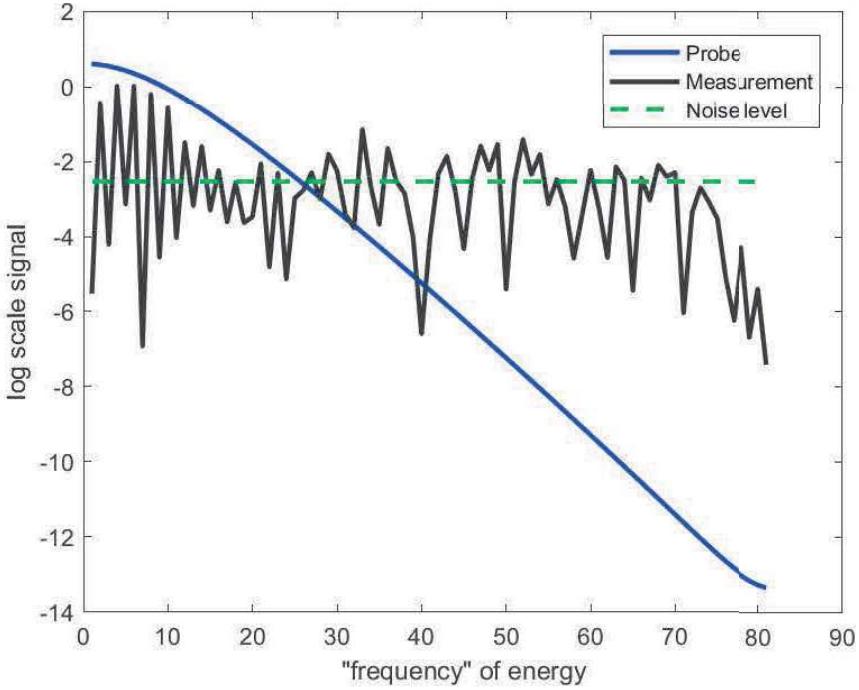
$$\Delta W_m = \Delta W_s * \Delta W_p$$

$$\mathrm{FT}(\Delta W_m) = \mathrm{FT}(\Delta W_s) \times \mathrm{FT}(\Delta W_p)$$

$$\mathrm{FT}(\Delta W_s) = \frac{\mathrm{FT}(\Delta W_m)}{\mathrm{FT}(\Delta W_p)}$$

But ... it doesn't work

Measurements decrease until the noise level whereas the probe is still decreasing.



If you add some hypothesis (Band limited, edge values tends to 0, positivity, ...) it works :

- Wiener filtering
- Penalized Maximum Likelihood
- Joint Maximum A Posteriori