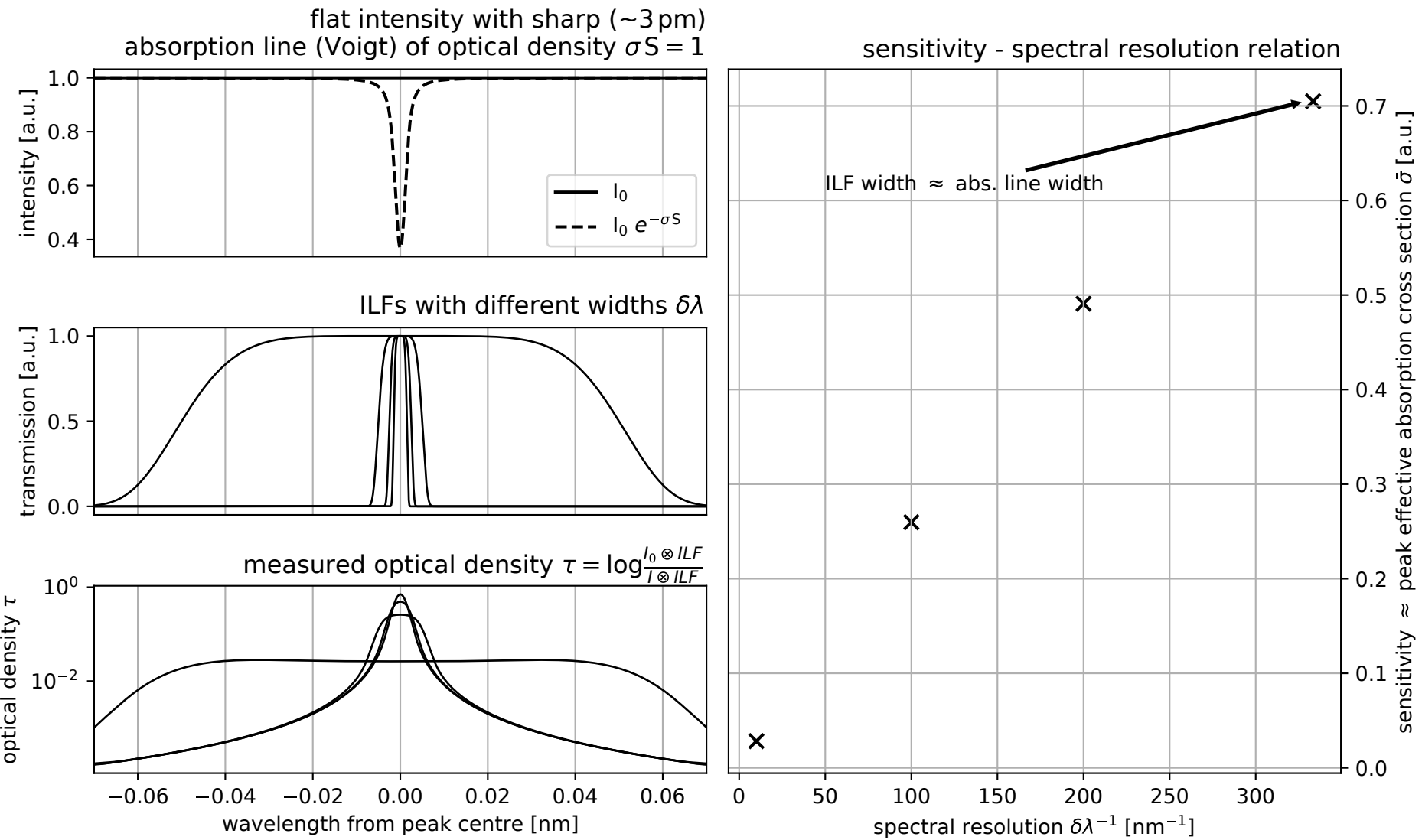
flat intensity with sharp (~3 pm)
absorption line (Voigt) of optical density $\sigma S = 1$
intensity [a.u.]
1.0
0.8
0.6
0.4
I_0
$I_0\ e^{-\sigma S}$
ILFs with different widths $\delta\lambda$
transmission [a.u.]
1.0
0.5
0.0
measured optical density $\tau = \log \frac{I_0 \otimes ILF}{I \otimes ILF}$
optical density τ
10^0
10^{-2}
−0.06
−0.04
−0.02
0.00
0.02
0.04
0.06
wavelength from peak centre [nm]
sensitivity - spectral resolution relation
ILF width ≈ abs. line width
0
50
100
150
200
250
300
spectral resolution $\delta\lambda^{-1}$ [nm^{-1}]
sensitivity ≈ peak effective absorption cross section $\bar{\sigma}$ [a.u.]
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7