Update on current status of Dispersion measurements

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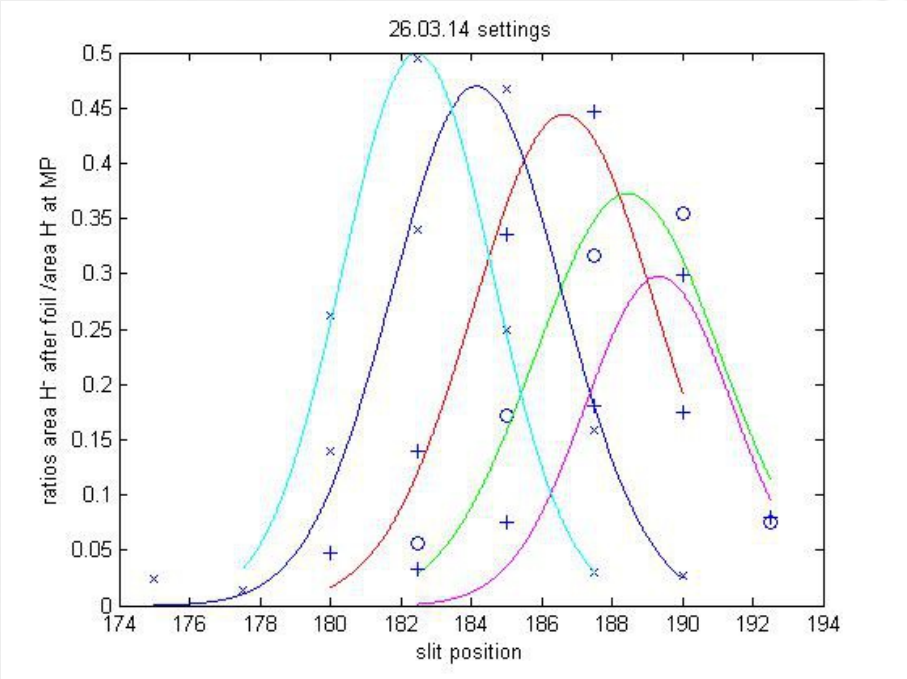
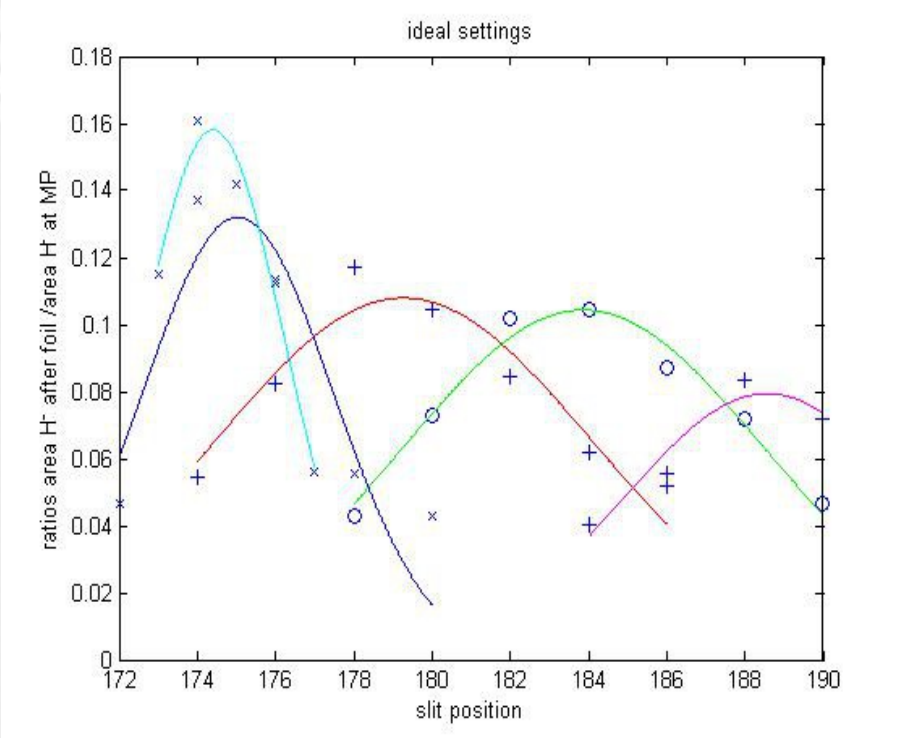
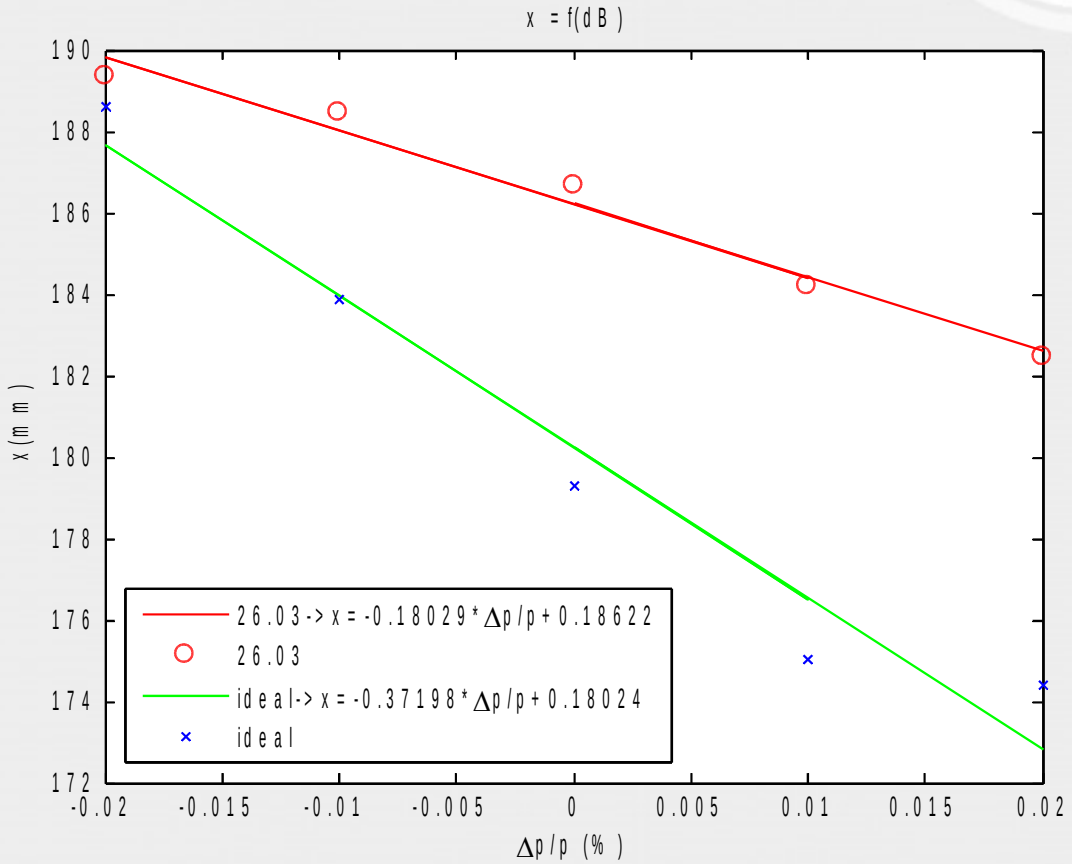
D at the slit





Cyan → dB = 0.02
Blue → dB = 0.01
Red → nominal
Green → dB = -0.01
Magenta → dB = -0.02

	D_{slit} measured	rsquare	D_{slit} by SAD	relative error
ideal case	-0.371	0.955	-0.984	62%
settings of 03.26	-0.180	0.954	-0.431	58%



The measured values are less than the half of the measured ones.

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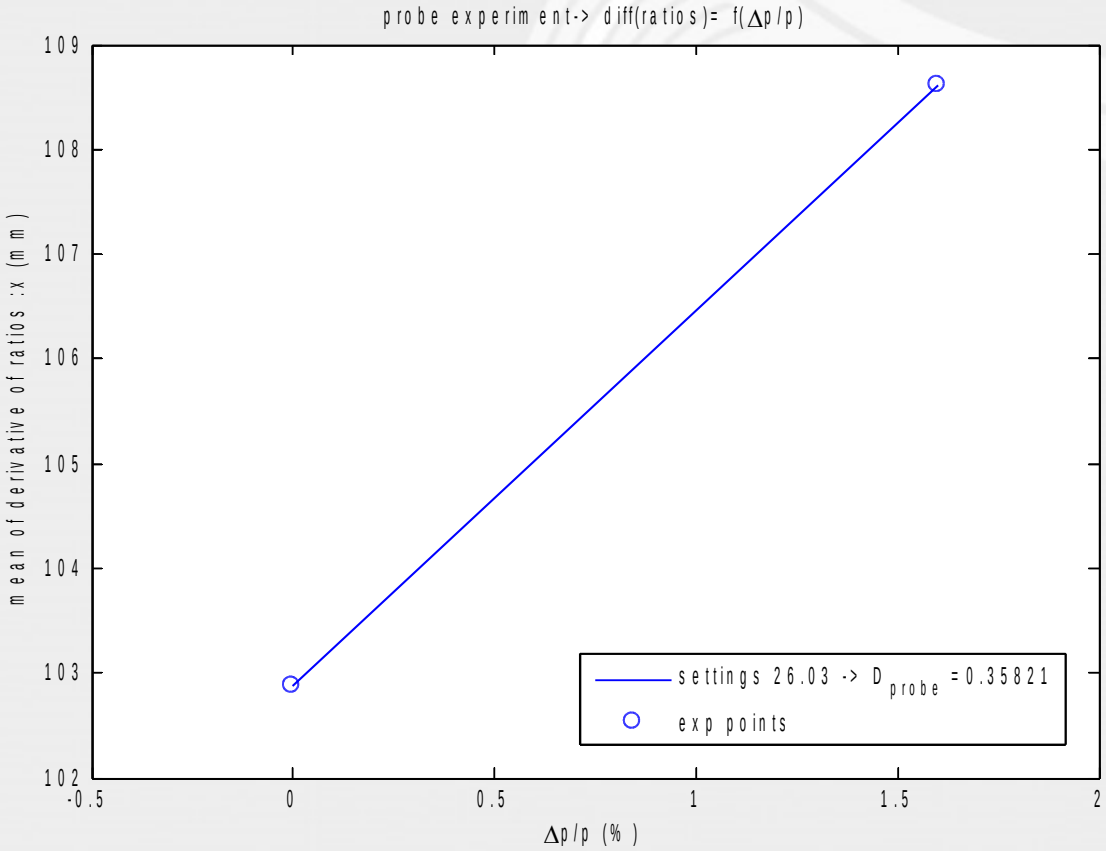
D' at the slit

	Slit position	Foil position	Probe position
x_1(mm)	190 (dp/p=1.6%)	4589.5 (-4.0)	4419.9 (-5.7)
x_2(mm)	187 (dp/p=0%)	4593.5 (0.0)	4425.6 (0.0)
Dispersion D	0.180 m (from previous) so Δp/p=1.6%	-0.25 m	-0.36 m

What is given by the experience :
Let's take D_foil = - 0.25 m



Experiment with the probe : derivative of the ratios gives us the gaussians.
Then gaussian fit, and linear fit of the means

$$\begin{pmatrix} D_p \\ D'_p \\ 1 \end{pmatrix}_{probe} = \begin{pmatrix} 0.26 & 1.3 & 0.41 \\ -0.57 & 0.49 & 0.34 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} D_f \\ D'_f \\ 1 \end{pmatrix}_{foil}$$

$$D'_f = \frac{D_p - 0.41 - 0.26 D_f}{1.3}$$

AN : D'_f = -0.54 rad

Case 2014_03_26

Matched case