

## Bead 1 (Rejected)

Date : Mon Oct 17 13:50:20 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -150  $\mu\text{m}$  (x), 77.2  $\mu\text{m}$  (y), 1.35  $\mu\text{m}$  (z)

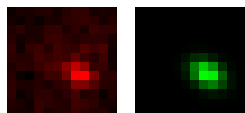
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

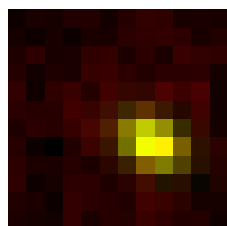
FWHM	Non corrected	Corrected	Theoretical
min	441 nm	459 nm	270 nm
max	621 nm	647 nm	270 nm
z	2.52 $\mu\text{m}$	2.53 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.71		
Theta	-30.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.848$



Parameters:

A = 122.710 (brightness)

B = 116.359 (background)

a = 0.435 px

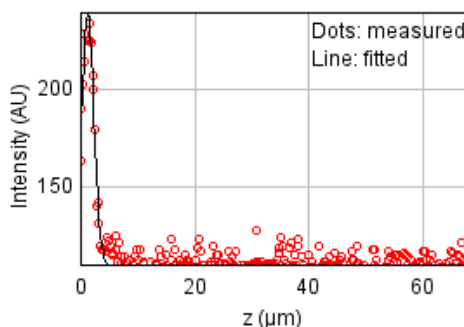
b = -0.149 px

c = 0.603 px

xc = 7.358 px

yc = 6.773 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 11391.5547

Standard deviation: 6.09147

$R^2$ : 0.92009

Parameters:

a = 110.47959

b = 238.61702

c = 1.34594

d = 1.07013

## Bead 2

Date : Mon Oct 17 13:50:20 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

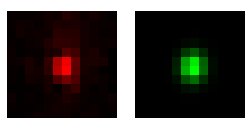
Coordinates : -94.0  $\mu\text{m}$  (x), 45.1  $\mu\text{m}$  (y), 2.28  $\mu\text{m}$  (z)

Corresponding bead : Not found

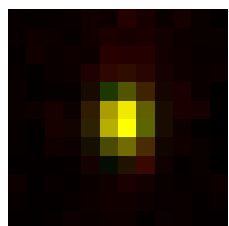
FWHM	Non corrected	Corrected	Theoretical
min	454 nm	473 nm	270 nm
max	534 nm	557 nm	270 nm
z	2.38 $\mu\text{m}$	2.39 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.85		
Theta	87.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.930$



Parameters:

$A = 294.350$  (brightness)

$B = 118.951$  (background)

$a = 0.650$  px

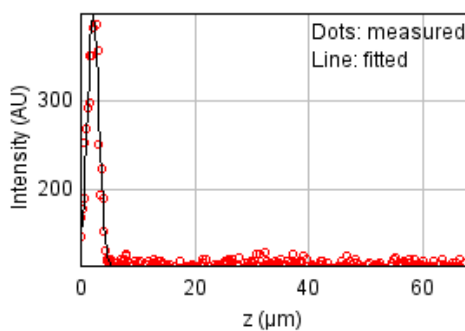
$b = 0.009$  px

$c = 0.470$  px

$x_c = 5.800$  px

$y_c = 5.594$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 24083.2781

Standard deviation: 8.85704

$R^2: 0.96383$

Parameters:

$a = 112.46092$

$b = 400.97299$

$c = 2.28337$

$d = 1.00971$

## Bead 3

Date : Mon Oct 17 13:50:21 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

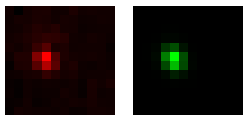
Coordinates : -107  $\mu\text{m}$  (x), 44.5  $\mu\text{m}$  (y), 18.2  $\mu\text{m}$  (z)

Corresponding bead : Not found

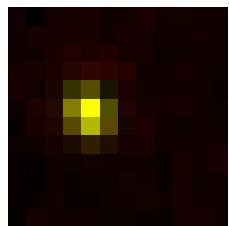
FWHM	Non corrected	Corrected	Theoretical
min	363 nm	378 nm	270 nm
max	441 nm	459 nm	270 nm
z	1.99 $\mu\text{m}$	1.99 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.825		
Theta	-64.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.944$



Parameters:

A = 354.154 (brightness)

B = 118.430 (background)

a = 0.957 px

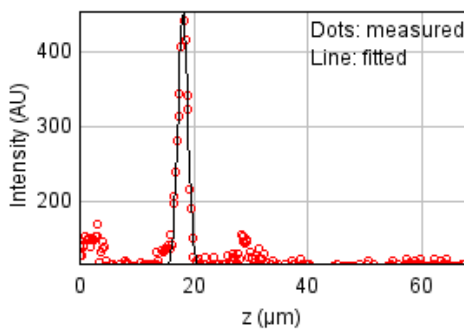
b = -0.126 px

c = 0.751 px

xc = 3.904 px

yc = 5.272 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 54569.8430

Standard deviation: 13.33236

$R^2$ : 0.93057

Parameters:

a = 117.86079

b = 453.41537

c = 18.18523

d = 0.84350

## Bead 4 (Rejected)

Date : Mon Oct 17 13:50:21 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 17.9  $\mu\text{m}$  (x), 32.6  $\mu\text{m}$  (y), 2.5  $\mu\text{m}$  (z)

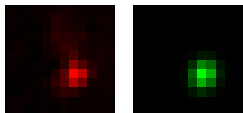
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

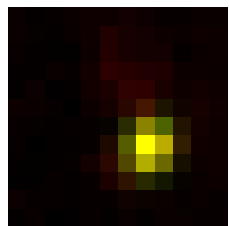
FWHM	Non corrected	Corrected	Theoretical
min	432 nm	450 nm	270 nm
max	513 nm	535 nm	270 nm
z	3.07 $\mu\text{m}$	3.09 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.841		
Theta	73.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.916$



Parameters:

A = 399.207 (brightness)

B = 122.115 (background)

a = 0.702 px

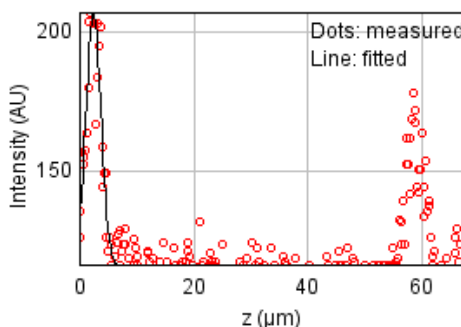
b = 0.057 px

c = 0.527 px

xc = 7.211 px

yc = 7.111 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 46847.0072

Standard deviation: 12.35298

$R^2$ : 0.63051

Parameters:

a = 116.46517

b = 206.74382

c = 2.50402

d = 1.30559

## Bead 5 (Rejected)

Date : Mon Oct 17 13:50:21 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 163  $\mu\text{m}$  (x), -2.19  $\mu\text{m}$  (y), 722 nm (z)

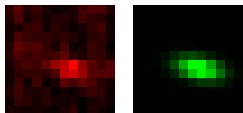
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

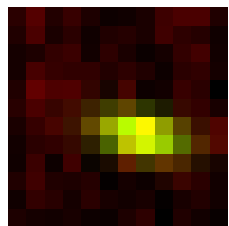
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	844 nm	879 nm	270 nm
z	2.25 $\mu\text{m}$	2.26 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.486		
Theta	-12.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.723$



Parameters:

A = 79.927 (brightness)

B = 115.844 (background)

a = 0.217 px

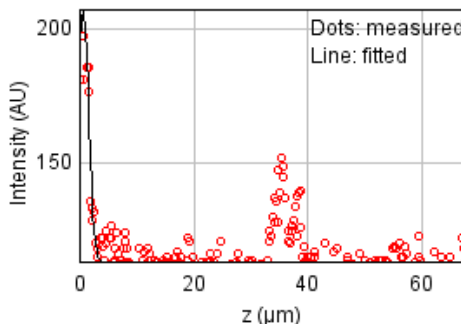
b = -0.128 px

c = 0.770 px

xc = 6.722 px

yc = 6.447 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 23532.7412

Standard deviation: 8.75522

$R^2$ : 0.71735

Parameters:

a = 112.69292

b = 207.70515

c = 0.72241

d = 0.95564

## Bead 6

Date : Mon Oct 17 13:50:21 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

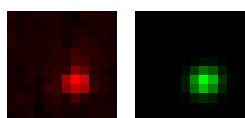
Coordinates : -78.3  $\mu\text{m}$  (x), -8.96  $\mu\text{m}$  (y), 2.47  $\mu\text{m}$  (z)

Corresponding bead : Not found

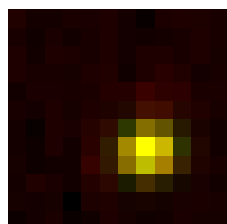
FWHM	Non corrected	Corrected	Theoretical
min	481 nm	501 nm	270 nm
max	534 nm	556 nm	270 nm
z	2.09 $\mu\text{m}$	2.1 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.9		
Theta	17.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.930$



Parameters:

A = 334.089 (brightness)

B = 122.082 (background)

a = 0.480 px

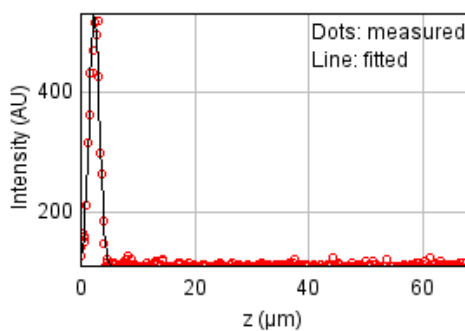
b = 0.032 px

c = 0.571 px

xc = 7.136 px

yc = 7.233 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 40612.4314

Standard deviation: 11.50165

$R^2$ : 0.96740

Parameters:

a = 111.74358

b = 531.69731

c = 2.47369

d = 0.88939

## Bead 7 (Rejected)

Date : Mon Oct 17 13:50:22 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 132  $\mu\text{m}$  (x), -10.1  $\mu\text{m}$  (y), 1.64  $\mu\text{m}$  (z)

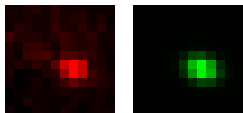
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

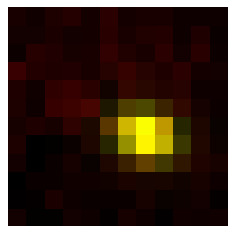
FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	586 nm	610 nm	270 nm
z	3.32 $\mu\text{m}$	3.34 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.752		
Theta	-20.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.892$



Parameters:

A = 174.706 (brightness)

B = 119.471 (background)

a = 0.427 px

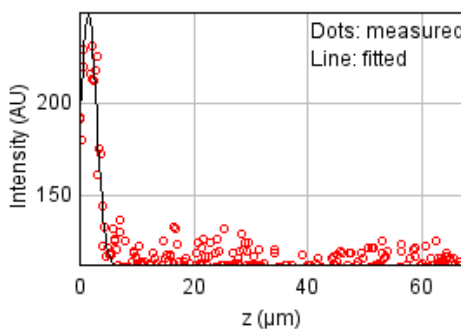
b = -0.097 px

c = 0.657 px

xc = 6.999 px

yc = 6.468 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 19549.9818

Standard deviation: 7.98002

$R^2$ : 0.90557

Parameters:

a = 113.21384

b = 248.45844

c = 1.64122

d = 1.41062

## Bead 8

Date : Mon Oct 17 13:50:22 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

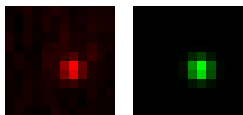
Coordinates : -119  $\mu\text{m}$  (x), -16.5  $\mu\text{m}$  (y), 2.03  $\mu\text{m}$  (z)

Corresponding bead : Not found

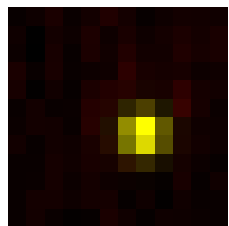
FWHM	Non corrected	Corrected	Theoretical
min	402 nm	419 nm	270 nm
max	415 nm	432 nm	270 nm
z	2.25 $\mu\text{m}$	2.26 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.969		
Theta	-77.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.926$



Parameters:

$A = 285.640$  (brightness)

$B = 116.274$  (background)

$a = 0.828$  px

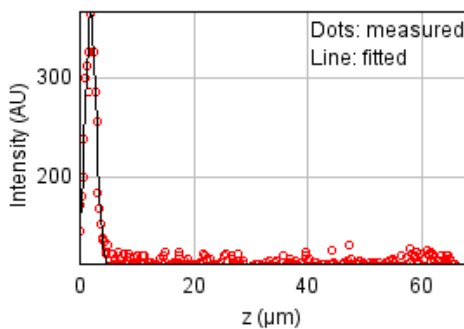
$b = -0.011$  px

$c = 0.782$  px

$x_c = 6.864$  px

$y_c = 6.393$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 21255.6853

Standard deviation: 8.32086

$R^2: 0.95741$

Parameters:

$a = 112.07983$

$b = 367.78802$

$c = 2.02662$

$d = 0.95415$



## Bead 9

Date : Mon Oct 17 13:50:22 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

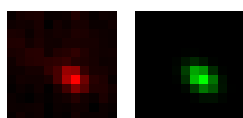
Coordinates : 135  $\mu\text{m}$  (x), -20.1  $\mu\text{m}$  (y), 2.08  $\mu\text{m}$  (z)

Corresponding bead : Not found

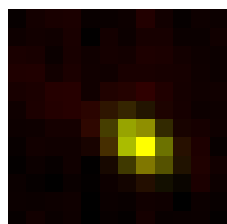
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	417 nm	270 nm
max	591 nm	616 nm	270 nm
z	2.48 $\mu\text{m}$	2.49 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.677		
Theta	-37.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.920$



Parameters:

A = 262.921 (brightness)

B = 119.530 (background)

a = 0.553 px

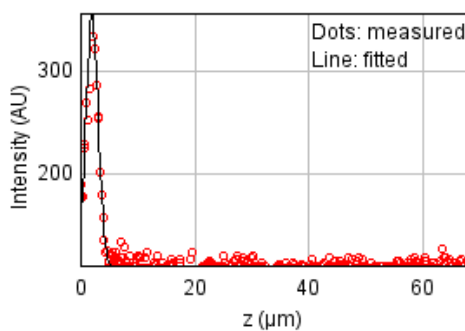
b = -0.220 px

c = 0.669 px

xc = 6.709 px

yc = 6.837 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 21302.3344

Standard deviation: 8.32999

$R^2$ : 0.95784

Parameters:

a = 111.32986

b = 356.80952

c = 2.08117

d = 1.05456

## Bead 10 (Rejected)

Date : Mon Oct 17 13:50:22 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 150  $\mu\text{m}$  (x), -28.2  $\mu\text{m}$  (y), 663 nm (z)

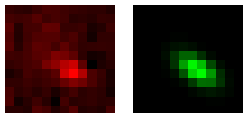
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

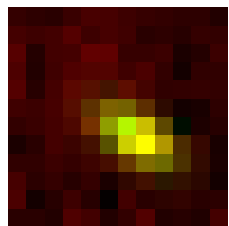
FWHM	Non corrected	Corrected	Theoretical
min	434 nm	452 nm	270 nm
max	805 nm	838 nm	270 nm
z	3.0 $\mu\text{m}$	3.02 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.539		
Theta	-33.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.734$



Parameters:

A = 85.442 (brightness)

B = 117.102 (background)

a = 0.361 px

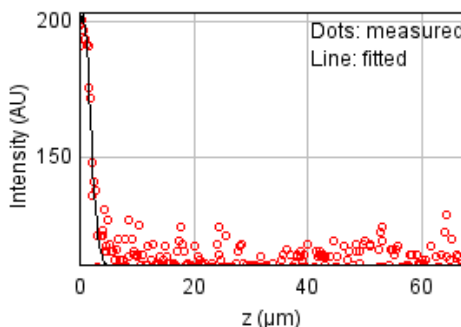
b = -0.233 px

c = 0.559 px

xc = 6.487 px

yc = 6.539 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 11426.1168

Standard deviation: 6.10071

$R^2$ : 0.85806

Parameters:

a = 109.74056

b = 203.19163

c = 0.66293

d = 1.27591

## Bead 11 (Rejected)

Date : Mon Oct 17 13:50:22 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 135  $\mu\text{m}$  (x), -47.0  $\mu\text{m}$  (y), 74.3 nm (z)

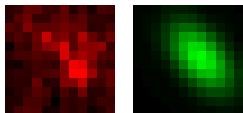
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

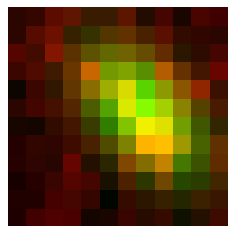
FWHM	Non corrected	Corrected	Theoretical
min	851 nm	887 nm	270 nm
max	1.46 $\mu\text{m}$	1.52 $\mu\text{m}$	270 nm
z	2.97 $\mu\text{m}$	2.98 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.582		
Theta	-49.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.609$



Parameters:

A = 46.032 (brightness)

B = 114.477 (background)

a = 0.134 px

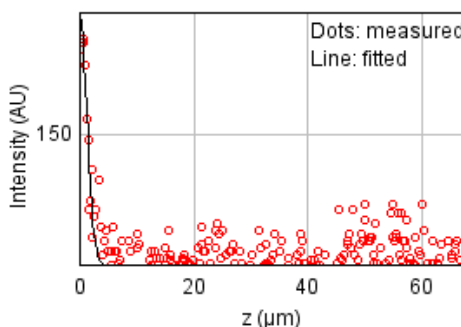
b = -0.060 px

c = 0.114 px

xc = 6.878 px

yc = 5.212 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 15980.5576

Standard deviation: 7.21484

$R^2$ : 0.66757

Parameters:

a = 111.43791

b = 186.47753

c = 0.074299

d = 1.25945

## Bead 12

Date : Mon Oct 17 13:50:23 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

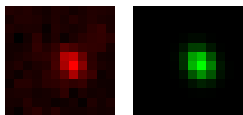
Coordinates : -137  $\mu\text{m}$  (x), -55.1  $\mu\text{m}$  (y), 1.47  $\mu\text{m}$  (z)

Corresponding bead : Not found

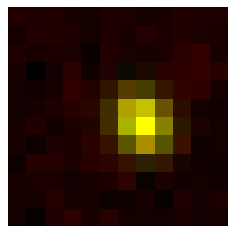
FWHM	Non corrected	Corrected	Theoretical
min	486 nm	506 nm	270 nm
max	591 nm	615 nm	270 nm
z	2.87 $\mu\text{m}$	2.88 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.822		
Theta	-58.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.922$



Parameters:

$A = 154.574$  (brightness)

$B = 114.767$  (background)

$a = 0.519$  px

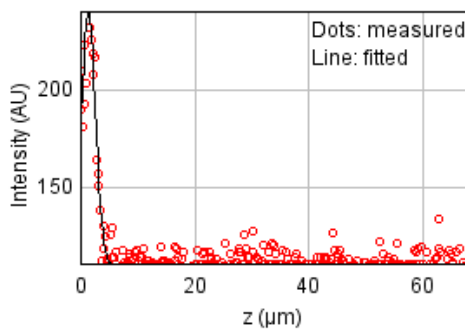
$b = -0.082$  px

$c = 0.435$  px

$x_c = 6.805$  px

$y_c = 5.784$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 15507.5882

Standard deviation: 7.10727

$R^2: 0.90766$

Parameters:

$a = 110.61205$

$b = 240.90883$

$c = 1.46944$

$d = 1.21778$

## Bead 13

Date : Mon Oct 17 13:50:23 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

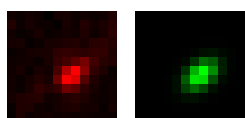
Coordinates : -153  $\mu\text{m}$  (x), -61.6  $\mu\text{m}$  (y), 2.42  $\mu\text{m}$  (z)

Corresponding bead : Not found

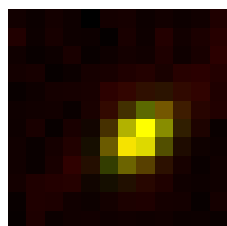
FWHM	Non corrected	Corrected	Theoretical
min	435 nm	453 nm	270 nm
max	669 nm	697 nm	270 nm
z	3.21 $\mu\text{m}$	3.23 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.65		
Theta	41.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.931$



Parameters:

A = 224.504 (brightness)

B = 121.260 (background)

a = 0.478 px

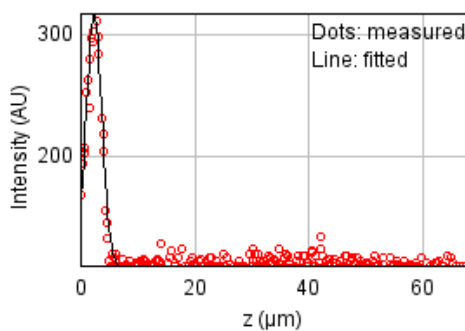
b = 0.203 px

c = 0.531 px

xc = 6.680 px

yc = 6.468 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 25614.2864

Standard deviation: 9.13423

$R^2$ : 0.94350

Parameters:

a = 111.72166

b = 316.38080

c = 2.42301

d = 1.36468

## Bead 14 (Rejected)

Date : Mon Oct 17 13:50:23 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 113 um (x), -78.6 um (y), 2.11 um (z)

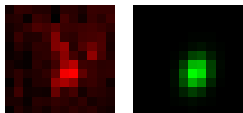
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

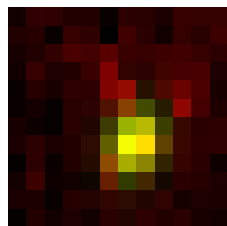
FWHM	Non corrected	Corrected	Theoretical
min	480 nm	500 nm	270 nm
max	636 nm	663 nm	270 nm
z	2.81 um	2.82 um	1.3 um
Asymmetry	0.754		
Theta	72.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.621$



Parameters:

A = 98.000 (brightness)

B = 117.231 (background)

a = 0.559 px

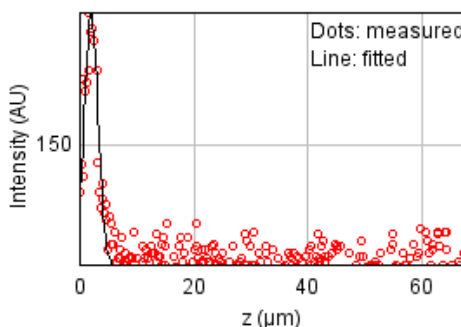
b = 0.074 px

c = 0.355 px

xc = 6.399 px

yc = 6.892 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 12159.6503

Standard deviation: 6.29349

$R^2$ : 0.83734

Parameters:

a = 110.68240

b = 194.00811

c = 2.10619

d = 1.19399

## Bead 15 (Rejected)

Date : Mon Oct 17 13:50:23 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -89.0  $\mu\text{m}$  (x), -80.7  $\mu\text{m}$  (y), 358 nm (z)

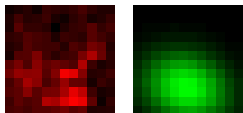
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

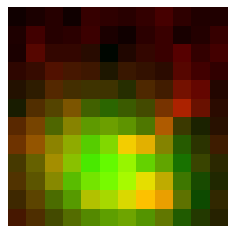
FWHM	Non corrected	Corrected	Theoretical
min	1.29 $\mu\text{m}$	1.34 $\mu\text{m}$	270 nm
max	1.61 $\mu\text{m}$	1.68 $\mu\text{m}$	270 nm
z	1.09 $\mu\text{m}$	1.09 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.798		
Theta	-21.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.482$



Parameters:

A = 45.891 (brightness)

B = 119.641 (background)

a = 0.056 px

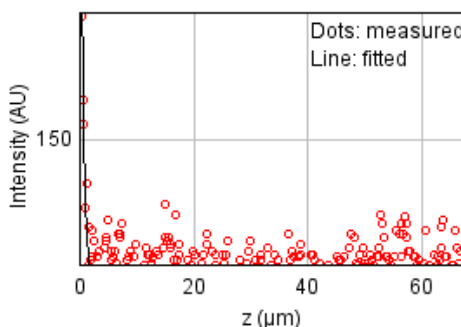
b = -0.010 px

c = 0.077 px

xc = 5.293 px

yc = 8.527 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 10527.6175

Standard deviation: 5.85593

$R^2$ : 0.65522

Parameters:

a = 112.35569

b = 189.18953

c = 0.35800

d = 0.46194

## Bead 16 (Rejected)

Date : Mon Oct 17 13:50:24 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -149  $\mu\text{m}$  (x), -92.1  $\mu\text{m}$  (y), 2.76  $\mu\text{m}$  (z)

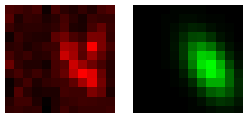
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

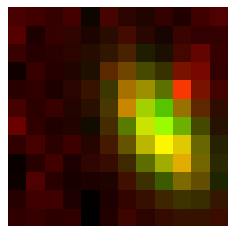
FWHM	Non corrected	Corrected	Theoretical
min	670 nm	698 nm	270 nm
max	1.18 $\mu\text{m}$	1.23 $\mu\text{m}$	270 nm
z	2.92 $\mu\text{m}$	2.94 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.568		
Theta	-58.9°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.624$



Parameters:

A = 70.893 (brightness)

B = 116.279 (background)

a = 0.245 px

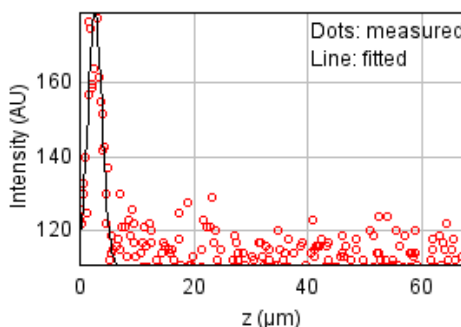
b = -0.089 px

c = 0.150 px

xc = 7.832 px

yc = 6.261 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13413.7797

Standard deviation: 6.61008

$R^2$ : 0.76693

Parameters:

a = 110.55311

b = 179.20740

c = 2.76498

d = 1.24207



## Bead 17 (Rejected)

Date : Mon Oct 17 13:50:24 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -90.4  $\mu\text{m}$  (x), 86.7  $\mu\text{m}$  (y), 2.84  $\mu\text{m}$  (z)

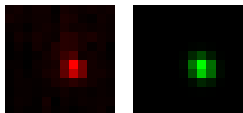
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

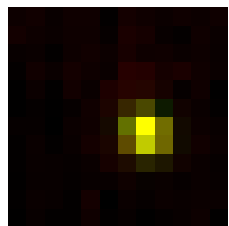
FWHM	Non corrected	Corrected	Theoretical
min	388 nm	404 nm	270 nm
max	439 nm	458 nm	270 nm
z	4.31 $\mu\text{m}$	4.33 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.882		
Theta	-58.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.938$



Parameters:

A = 370.517 (brightness)

B = 121.030 (background)

a = 0.838 px

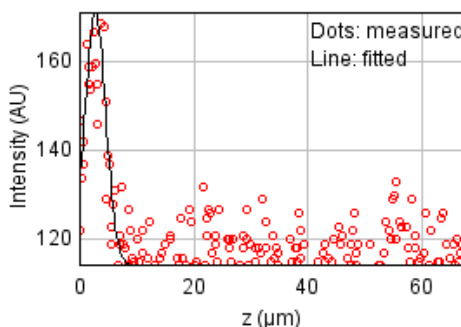
b = -0.089 px

c = 0.750 px

xc = 7.027 px

yc = 6.350 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 16630.8012

Standard deviation: 7.36016

$R^2$ : 0.72180

Parameters:

a = 114.07290

b = 171.00511

c = 2.83810

d = 1.82993

## Bead 18 (Rejected)

Date : Mon Oct 17 13:50:24 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 132  $\mu\text{m}$  (x), 67.7  $\mu\text{m}$  (y), 39.9  $\mu\text{m}$  (z)

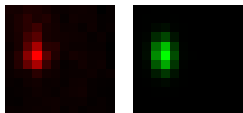
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

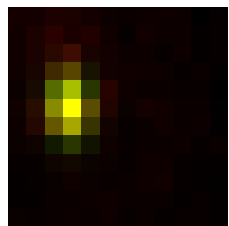
FWHM	Non corrected	Corrected	Theoretical
min	383 nm	398 nm	270 nm
max	612 nm	638 nm	270 nm
z	1.65 $\mu\text{m}$	1.66 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.625		
Theta	-87.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.929$



Parameters:

A = 396.324 (brightness)

B = 116.462 (background)

a = 0.916 px

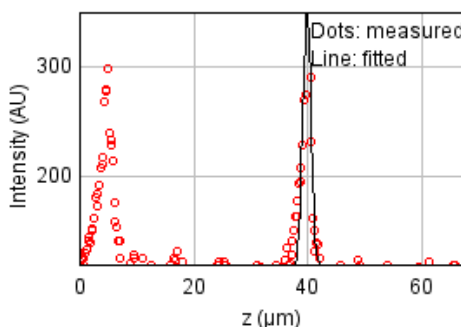
b = -0.023 px

c = 0.359 px

xc = 2.834 px

yc = 4.900 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 256599.746

Standard deviation: 28.91072

$R^2$ : 0.52738

Parameters:

a = 120.48247

b = 349.99653

c = 39.91084

d = 0.70034

## Bead 19

Date : Mon Oct 17 13:50:24 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

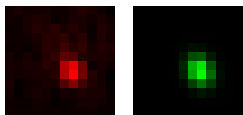
Coordinates : -101  $\mu\text{m}$  (x), 66.9  $\mu\text{m}$  (y), 2.09  $\mu\text{m}$  (z)

Corresponding bead : Not found

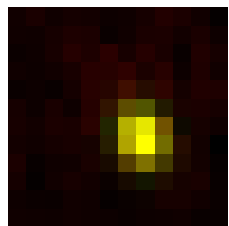
FWHM	Non corrected	Corrected	Theoretical
min	443 nm	461 nm	270 nm
max	564 nm	587 nm	270 nm
z	2.49 $\mu\text{m}$	2.5 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.785		
Theta	-69.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.933$



Parameters:

$A = 226.317$  (brightness)

$B = 118.438$  (background)

$a = 0.652$  px

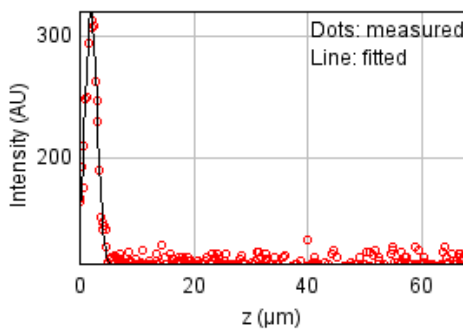
$b = -0.087$  px

$c = 0.455$  px

$x_c = 6.782$  px

$y_c = 6.565$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14223.6741

Standard deviation: 6.80670

$R^2 = 0.96068$

Parameters:

$a = 112.94446$

$b = 320.70388$

$c = 2.08652$

$d = 1.05736$

## Bead 20

Date : Mon Oct 17 13:50:25 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

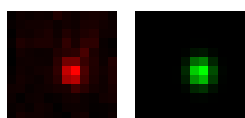
Coordinates : 90.3  $\mu\text{m}$  (x), 61.0  $\mu\text{m}$  (y), 2.29  $\mu\text{m}$  (z)

Corresponding bead : Not found

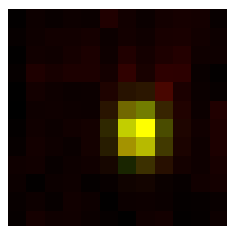
FWHM	Non corrected	Corrected	Theoretical
min	434 nm	452 nm	270 nm
max	513 nm	534 nm	270 nm
z	1.91 $\mu\text{m}$	1.92 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.846		
Theta	-86.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.917$



Parameters:

A = 264.711 (brightness)

B = 119.564 (background)

a = 0.712 px

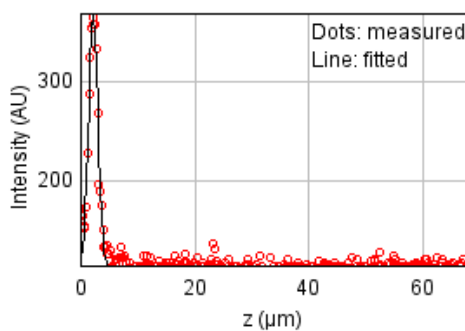
b = -0.011 px

c = 0.511 px

xc = 6.653 px

yc = 6.183 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 20366.7282

Standard deviation: 8.14501

$R^2$ : 0.95337

Parameters:

a = 112.77480

b = 370.69673

c = 2.29105

d = 0.81122

## Bead 21 (Rejected)

Date : Mon Oct 17 13:50:25 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 161  $\mu\text{m}$  (x), 59.7  $\mu\text{m}$  (y), 650 nm (z)

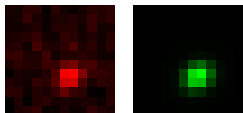
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

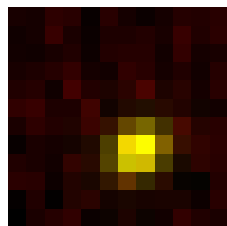
FWHM	Non corrected	Corrected	Theoretical
min	442 nm	460 nm	270 nm
max	529 nm	551 nm	270 nm
z	3.69 $\mu\text{m}$	3.71 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.835		
Theta	36.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.873$



Parameters:

A = 100.563 (brightness)

B = 115.496 (background)

a = 0.552 px

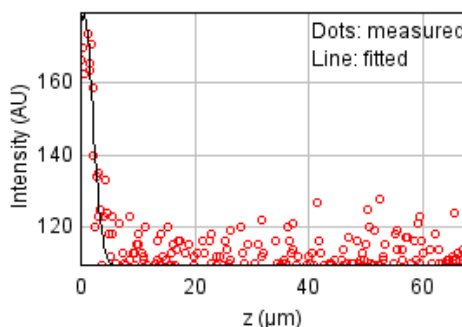
b = 0.099 px

c = 0.615 px

xc = 6.580 px

yc = 7.315 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 12713.0856

Standard deviation: 6.43511

$R^2$ : 0.77937

Parameters:

a = 109.14235

b = 179.65142

c = 0.65027

d = 1.56726

## Bead 22

Date : Mon Oct 17 13:50:25 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

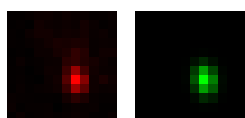
Coordinates : -3.49  $\mu\text{m}$  (x), 50.9  $\mu\text{m}$  (y), 2.04  $\mu\text{m}$  (z)

Corresponding bead : Not found

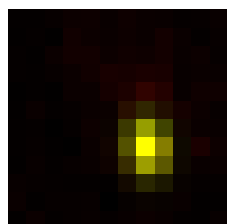
FWHM	Non corrected	Corrected	Theoretical
min	379 nm	394 nm	270 nm
max	534 nm	556 nm	270 nm
z	1.94 $\mu\text{m}$	1.95 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.709		
Theta	-81.9°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.952$



Parameters:

$A = 455.027$  (brightness)

$B = 121.621$  (background)

$a = 0.927$  px

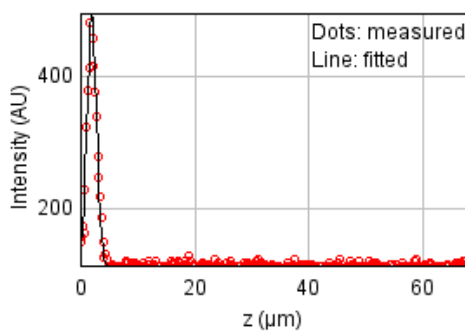
$b = -0.065$  px

$c = 0.479$  px

$x_c = 7.114$  px

$y_c = 7.015$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 26075.0248

Standard deviation: 9.21602

$R^2: 0.97269$

Parameters:

$a = 114.19366$

$b = 496.49456$

$c = 2.03868$

$d = 0.82403$

## Bead 23 (Rejected)

Date : Mon Oct 17 13:50:25 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 148 um (x), 42.7 um (y), 107 nm (z)

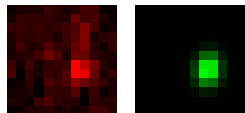
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

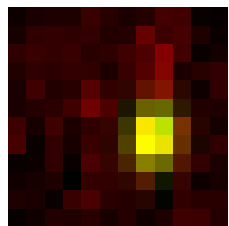
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	447 nm	270 nm
max	595 nm	619 nm	270 nm
z	2.25 um	2.26 um	1.3 um
Asymmetry	0.722		
Theta	83.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.672$



Parameters:

A = 85.796 (brightness)

B = 116.893 (background)

a = 0.724 px

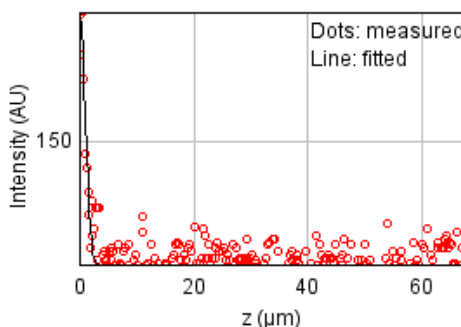
b = 0.041 px

c = 0.384 px

xc = 7.453 px

yc = 6.554 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 10914.8460

Standard deviation: 5.96265

$R^2$ : 0.73999

Parameters:

a = 110.27374

b = 191.67676

c = 0.10750

d = 0.95468

## Bead 24

Date : Mon Oct 17 13:50:26 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

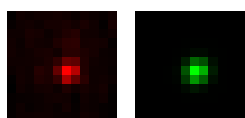
Coordinates : -85.1  $\mu\text{m}$  (x), 25.4  $\mu\text{m}$  (y), 2.37  $\mu\text{m}$  (z)

Corresponding bead : Not found

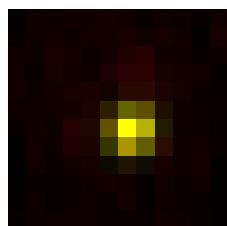
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	443 nm	461 nm	270 nm
z	2.02 $\mu\text{m}$	2.03 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.925		
Theta	51.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.939$



Parameters:

A = 379.414 (brightness)

B = 122.455 (background)

a = 0.756 px

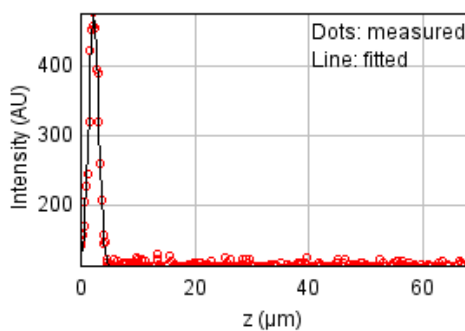
b = 0.057 px

c = 0.730 px

xc = 6.245 px

yc = 6.117 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 16003.0674

Standard deviation: 7.21992

$R^2$ : 0.98185

Parameters:

a = 112.61090

b = 474.94509

c = 2.36912

d = 0.85661



## Bead 25 (Rejected)

Date : Mon Oct 17 13:50:26 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -42.7  $\mu\text{m}$  (x), 22.0  $\mu\text{m}$  (y), 660 nm (z)

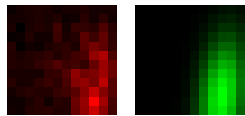
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

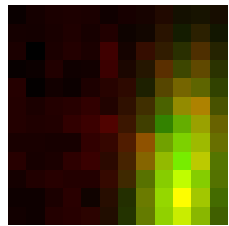
FWHM	Non corrected	Corrected	Theoretical
min	820 nm	854 nm	270 nm
max	2.19 $\mu\text{m}$	2.28 $\mu\text{m}$	270 nm
z	163 $\mu\text{m}$	164 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.375		
Theta	84.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.823$



Parameters:

A = 80.454 (brightness)

B = 121.872 (background)

a = 0.198 px

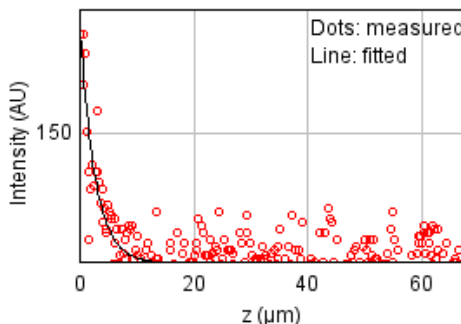
b = 0.018 px

c = 0.030 px

xc = 8.955 px

yc = 9.539 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13003.8851

Standard deviation: 6.50830

$R^2$ : 0.72003

Parameters:

a = 111.91242

b = 1.34074E154

c = -1831.73578

d = 69.17638

## Bead 26 (Rejected)

Date : Mon Oct 17 13:50:26 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 110 um (x), 16.4 um (y), 660 nm (z)

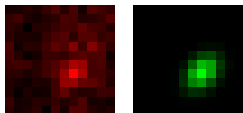
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

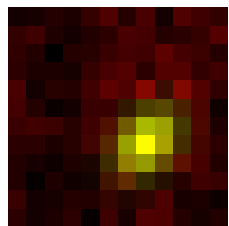
FWHM	Non corrected	Corrected	Theoretical
min	492 nm	513 nm	270 nm
max	696 nm	725 nm	270 nm
z	2.48 um	2.49 um	1.3 um
Asymmetry	0.707		
Theta	49.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.628$



Parameters:

A = 64.758 (brightness)

B = 116.504 (background)

a = 0.437 px

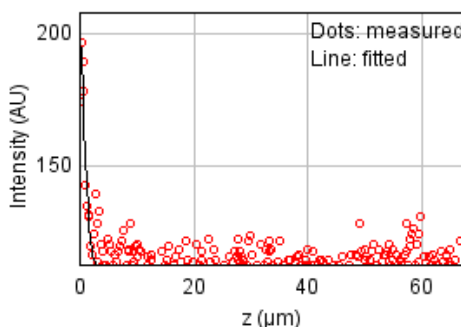
b = 0.137 px

c = 0.394 px

xc = 7.061 px

yc = 6.849 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13472.4248

Standard deviation: 6.62451

$R^2$ : 0.70915

Parameters:

a = 112.53086

b = 211.74265

c = -0.28935

d = 1.05119

## Bead 27

Date : Mon Oct 17 13:50:26 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

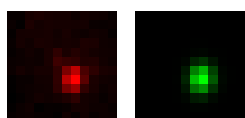
Coordinates : 85.5  $\mu\text{m}$  (x), 6.74  $\mu\text{m}$  (y), 2.52  $\mu\text{m}$  (z)

Corresponding bead : Not found

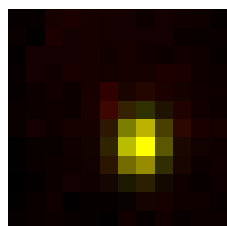
FWHM	Non corrected	Corrected	Theoretical
min	441 nm	459 nm	270 nm
max	532 nm	554 nm	270 nm
z	2.39 $\mu\text{m}$	2.4 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.83		
Theta	84.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.943$



Parameters:

A = 291.291 (brightness)

B = 121.390 (background)

a = 0.687 px

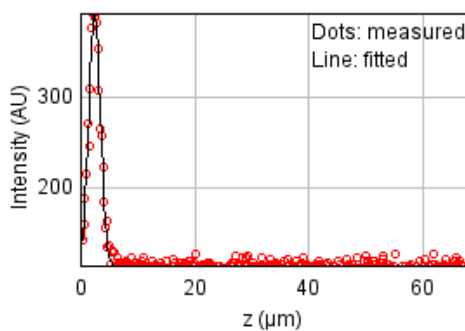
b = 0.021 px

c = 0.477 px

xc = 6.725 px

yc = 6.883 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 15213.3229

Standard deviation: 7.03952

$R^2$ : 0.97608

Parameters:

a = 111.67263

b = 394.69826

c = 2.52279

d = 1.01566

## Bead 28

Date : Mon Oct 17 13:50:27 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

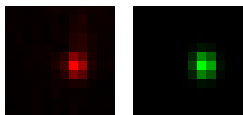
Coordinates : -50.3  $\mu\text{m}$  (x), 5.62  $\mu\text{m}$  (y), 2.71  $\mu\text{m}$  (z)

Corresponding bead : Not found

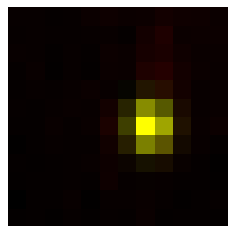
FWHM	Non corrected	Corrected	Theoretical
min	381 nm	397 nm	270 nm
max	455 nm	474 nm	270 nm
z	1.99 $\mu\text{m}$	2.0 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.838		
Theta	-87.9°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.962$



Parameters:

A = 671.740 (brightness)

B = 122.972 (background)

a = 0.923 px

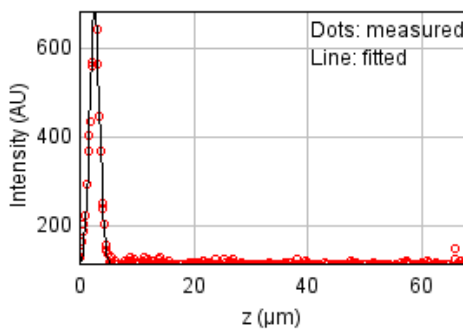
b = -0.010 px

c = 0.649 px

xc = 7.264 px

yc = 5.969 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 50284.0741

Standard deviation: 12.79812

$R^2$ : 0.97702

Parameters:

a = 113.24693

b = 686.05999

c = 2.70879

d = 0.84613

## Bead 29

Date : Mon Oct 17 13:50:27 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

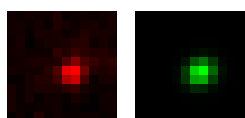
Coordinates : -139  $\mu\text{m}$  (x), 2.49  $\mu\text{m}$  (y), 2.05  $\mu\text{m}$  (z)

Corresponding bead : Not found

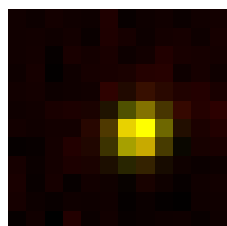
FWHM	Non corrected	Corrected	Theoretical
min	453 nm	471 nm	270 nm
max	516 nm	538 nm	270 nm
z	2.55 $\mu\text{m}$	2.56 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.877		
Theta	35.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.938$



Parameters:

$A = 234.367$  (brightness)

$B = 116.293$  (background)

$a = 0.554$  px

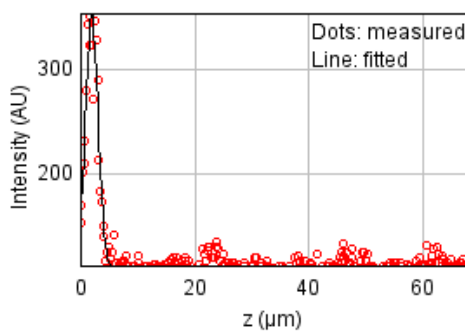
$b = 0.071$  px

$c = 0.604$  px

$x_c = 6.652$  px

$y_c = 6.204$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 31628.1337

Standard deviation: 10.15004

$R^2: 0.93697$

Parameters:

$a = 113.57277$

$b = 352.65948$

$c = 2.04502$

$d = 1.08198$

## Bead 30 (Rejected)

Date : Mon Oct 17 13:50:27 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -158  $\mu\text{m}$  (x), -4.54  $\mu\text{m}$  (y), 2.24  $\mu\text{m}$  (z)

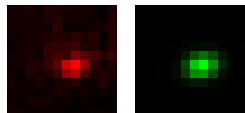
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

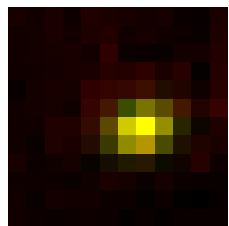
FWHM	Non corrected	Corrected	Theoretical
min	442 nm	460 nm	270 nm
max	590 nm	614 nm	270 nm
z	2.7 $\mu\text{m}$	2.71 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.749		
Theta	14.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.894$



Parameters:

A = 184.770 (brightness)

B = 118.496 (background)

a = 0.405 px

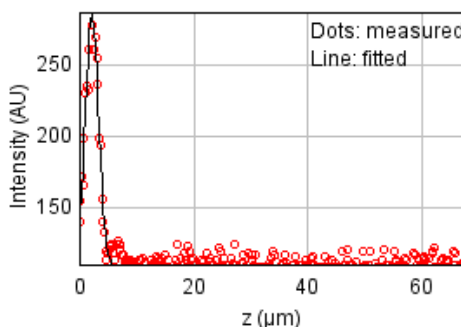
b = 0.074 px

c = 0.668 px

xc = 6.763 px

yc = 6.130 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13139.2232

Standard deviation: 6.54208

$R^2$ : 0.95352

Parameters:

a = 110.27284

b = 286.48521

c = 2.24100

d = 1.14545

## Bead 31

Date : Mon Oct 17 13:50:27 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

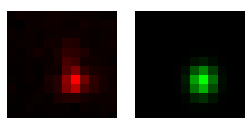
Coordinates : 9.87  $\mu\text{m}$  (x), -9.38  $\mu\text{m}$  (y), 2.55  $\mu\text{m}$  (z)

Corresponding bead : Not found

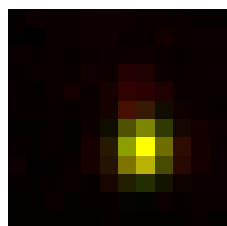
FWHM	Non corrected	Corrected	Theoretical
min	449 nm	468 nm	270 nm
max	517 nm	538 nm	270 nm
z	2.03 $\mu\text{m}$	2.04 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.869		
Theta	85.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.929$



Parameters:

A = 462.040 (brightness)

B = 123.606 (background)

a = 0.664 px

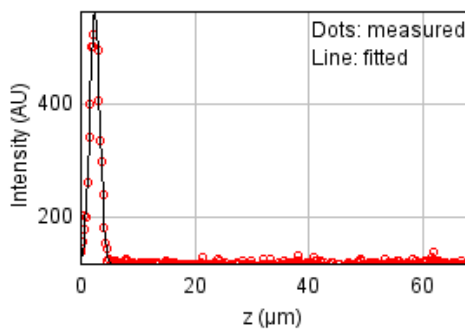
b = 0.012 px

c = 0.503 px

xc = 6.857 px

yc = 7.150 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 20632.8426

Standard deviation: 8.19805

$R^2$ : 0.98504

Parameters:

a = 114.78363

b = 567.65398

c = 2.55404

d = 0.86105

## Bead 32 (Rejected)

Date : Mon Oct 17 13:50:27 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 113  $\mu\text{m}$  (x), -12.6  $\mu\text{m}$  (y), 1.31  $\mu\text{m}$  (z)

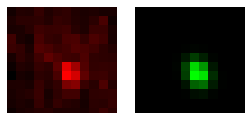
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

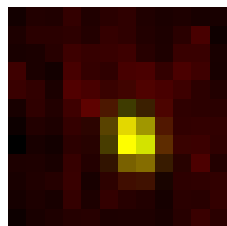
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	512 nm	534 nm	270 nm
z	3.28 $\mu\text{m}$	3.29 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.788		
Theta	-64.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.781$



Parameters:

A = 145.198 (brightness)

B = 116.915 (background)

a = 0.766 px

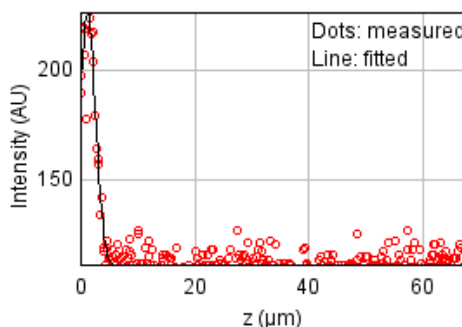
b = -0.121 px

c = 0.568 px

xc = 6.382 px

yc = 6.729 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13207.7513

Standard deviation: 6.55912

$R^2$ : 0.90662

Parameters:

a = 111.52910

b = 225.91277

c = 1.31061

d = 1.39242



## Bead 33 (Rejected)

Date : Mon Oct 17 13:50:28 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 80.8  $\mu\text{m}$  (x), -22.8  $\mu\text{m}$  (y), 3.4  $\mu\text{m}$  (z)

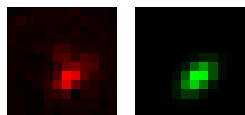
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

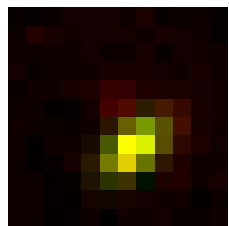
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	416 nm	270 nm
max	660 nm	688 nm	270 nm
z	2.74 $\mu\text{m}$	2.76 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.605		
Theta	42.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.897$



Parameters:

A = 279.612 (brightness)

B = 123.750 (background)

a = 0.550 px

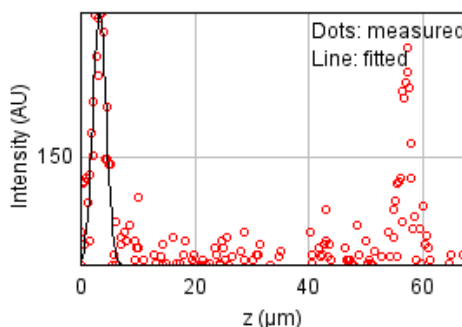
b = 0.265 px

c = 0.598 px

xc = 6.374 px

yc = 7.160 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 43569.3438

Standard deviation: 11.91300

$R^2$ : 0.56153

Parameters:

a = 116.25026

b = 195.79536

c = 3.40028

d = 1.16545

## Bead 34

Date : Mon Oct 17 13:50:28 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

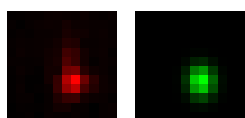
Coordinates : 9.62  $\mu\text{m}$  (x), -34.5  $\mu\text{m}$  (y), 2.81  $\mu\text{m}$  (z)

Corresponding bead : Not found

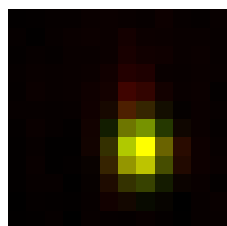
FWHM	Non corrected	Corrected	Theoretical
min	474 nm	494 nm	270 nm
max	573 nm	597 nm	270 nm
z	1.92 $\mu\text{m}$	1.93 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.828		
Theta	-86.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.932$



Parameters:

$A = 598.718$  (brightness)

$B = 126.844$  (background)

$a = 0.596$  px

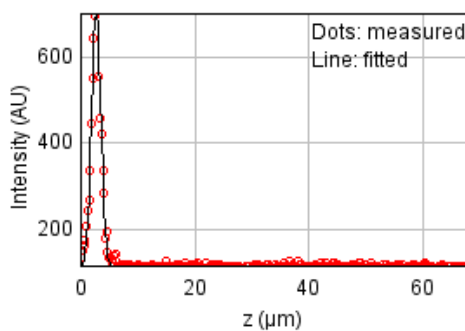
$b = -0.012$  px

$c = 0.410$  px

$x_c = 6.705$  px

$y_c = 7.167$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 28901.5912

Standard deviation: 9.70268

$R^2: 0.98686$

Parameters:

$a = 114.30608$

$b = 701.56986$

$c = 2.80555$

$d = 0.81595$

## Bead 35 (Rejected)

Date : Mon Oct 17 13:50:28 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 20.7  $\mu\text{m}$  (x), -39.3  $\mu\text{m}$  (y), 2.94  $\mu\text{m}$  (z)

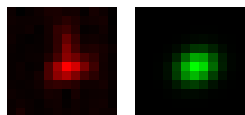
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

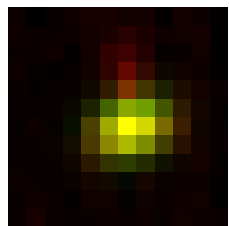
FWHM	Non corrected	Corrected	Theoretical
min	578 nm	602 nm	270 nm
max	720 nm	750 nm	270 nm
z	3.16 $\mu\text{m}$	3.17 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.802		
Theta	23.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.882$



Parameters:

A = 328.397 (brightness)

B = 122.989 (background)

a = 0.282 px

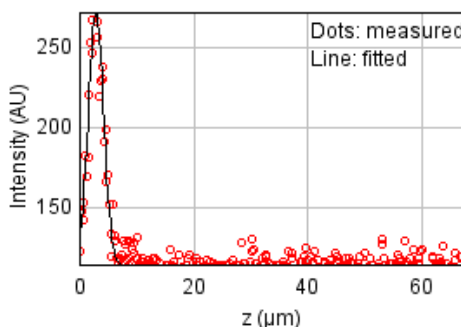
b = 0.053 px

c = 0.378 px

xc = 6.213 px

yc = 6.033 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 16786.5296

Standard deviation: 7.39454

$R^2$ : 0.93814

Parameters:

a = 113.61343

b = 272.73733

c = 2.94220

d = 1.34063

## Bead 36 (Rejected)

Date : Mon Oct 17 13:50:28 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 136  $\mu\text{m}$  (x), -44.5  $\mu\text{m}$  (y), 1.85  $\mu\text{m}$  (z)

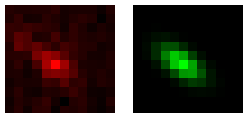
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

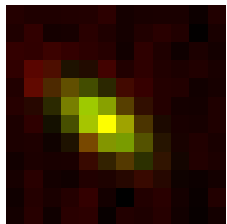
FWHM	Non corrected	Corrected	Theoretical
min	452 nm	470 nm	270 nm
max	898 nm	936 nm	270 nm
z	3.1 $\mu\text{m}$	3.11 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.503		
Theta	-36.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.821$



Parameters:

A = 113.514 (brightness)

B = 114.624 (background)

a = 0.339 px

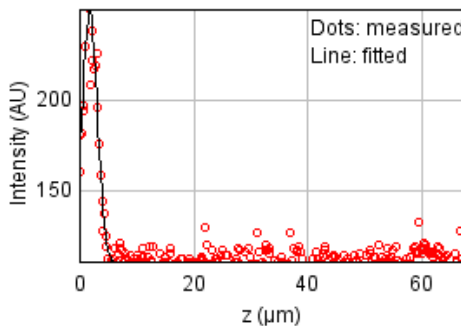
b = -0.235 px

c = 0.485 px

xc = 4.752 px

yc = 5.846 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 17180.3460

Standard deviation: 7.48078

$R^2$ : 0.91698

Parameters:

a = 110.55210

b = 249.80116

c = 1.85326

d = 1.31622

## Bead 37 (Rejected)

Date : Mon Oct 17 13:50:28 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -108  $\mu\text{m}$  (x), -67.8  $\mu\text{m}$  (y), 2.74  $\mu\text{m}$  (z)

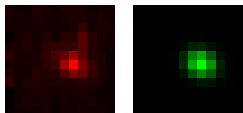
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

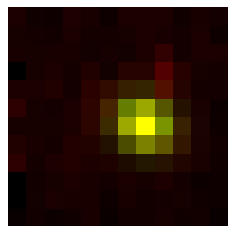
FWHM	Non corrected	Corrected	Theoretical
min	481 nm	501 nm	270 nm
max	552 nm	574 nm	270 nm
z	3.99 $\mu\text{m}$	4.0 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.872		
Theta	-31.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.883$



Parameters:

A = 269.957 (brightness)

B = 122.036 (background)

a = 0.479 px

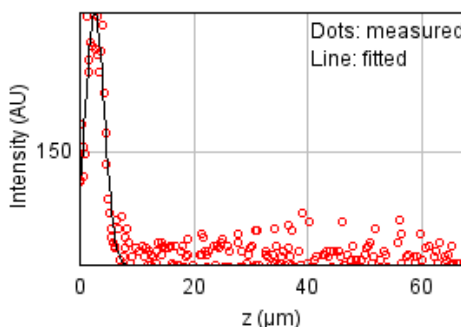
b = -0.062 px

c = 0.543 px

xc = 6.915 px

yc = 5.872 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14991.5602

Standard deviation: 6.98802

$R^2$ : 0.86346

Parameters:

a = 110.93702

b = 198.29391

c = 2.73991

d = 1.69287

## Bead 38 (Rejected)

Date : Mon Oct 17 13:50:29 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 111  $\mu\text{m}$  (x), -72.6  $\mu\text{m}$  (y), 3.42  $\mu\text{m}$  (z)

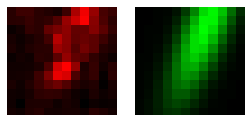
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

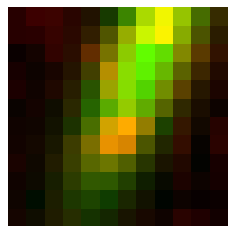
FWHM	Non corrected	Corrected	Theoretical
min	804 nm	837 nm	270 nm
max	2.94 $\mu\text{m}$	3.06 $\mu\text{m}$	270 nm
z	3.96 $\mu\text{m}$	3.97 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.274		
Theta	67.9°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.694$



Parameters:

$A = 101.857$  (brightness)

$B = 111.418$  (background)

$a = 0.180$  px

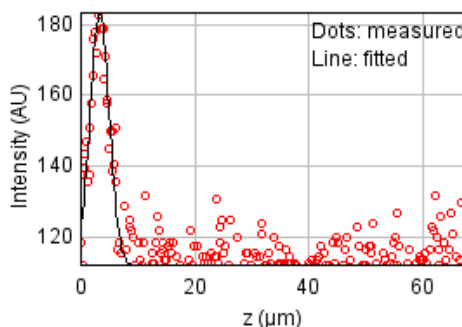
$b = 0.067$  px

$c = 0.043$  px

$xc = 7.343$  px

$yc = 1.384$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14304.0363

Standard deviation: 6.82590

$R^2: 0.81439$

Parameters:

$a = 112.13810$

$b = 183.37362$

$c = 3.42078$

$d = 1.68011$

## Bead 39 (Rejected)

Date : Mon Oct 17 13:50:29 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 90.8  $\mu\text{m}$  (x), -78.0  $\mu\text{m}$  (y), 2.89  $\mu\text{m}$  (z)

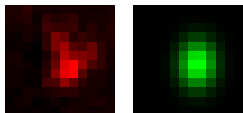
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

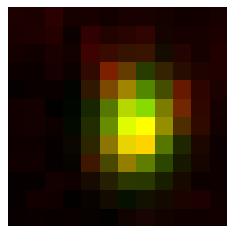
FWHM	Non corrected	Corrected	Theoretical
min	681 nm	709 nm	270 nm
max	895 nm	932 nm	270 nm
z	3.46 $\mu\text{m}$	3.48 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.761		
Theta	88.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.836$



Parameters:

A = 186.030 (brightness)

B = 119.239 (background)

a = 0.289 px

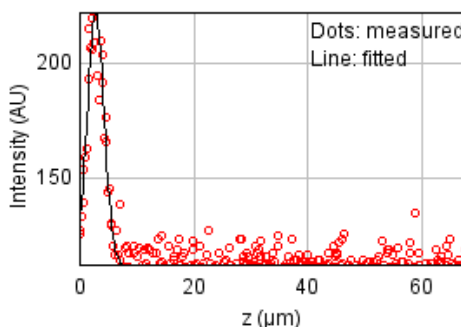
b = 0.003 px

c = 0.168 px

xc = 6.510 px

yc = 5.955 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13729.7619

Standard deviation: 6.68748

$R^2$ : 0.90544

Parameters:

a = 112.14233

b = 221.71151

c = 2.89146

d = 1.47056

## Bead 40 (Rejected)

Date : Mon Oct 17 13:50:29 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -33.1  $\mu\text{m}$  (x), -81.6  $\mu\text{m}$  (y), 414 nm (z)

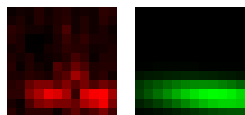
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

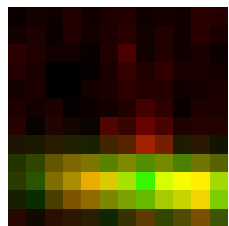
FWHM	Non corrected	Corrected	Theoretical
min	564 nm	587 nm	270 nm
max	2.66 $\mu\text{m}$	2.78 $\mu\text{m}$	270 nm
z	1.93 $\mu\text{m}$	1.94 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.211		
Theta	-4.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.743$



Parameters:

A = 106.096 (brightness)

B = 119.914 (background)

a = 0.021 px

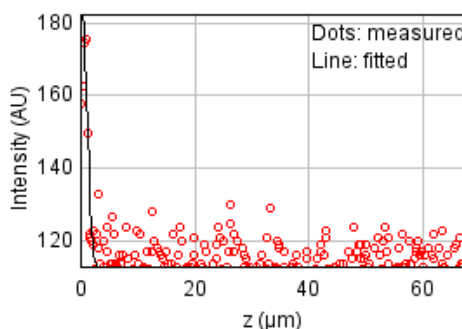
b = -0.029 px

c = 0.421 px

xc = 8.649 px

yc = 9.273 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13418.1110

Standard deviation: 6.61114

$R^2$ : 0.65607

Parameters:

a = 112.57632

b = 182.34494

c = 0.41402

d = 0.82151



## Bead 41

Date : Mon Oct 17 13:50:30 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

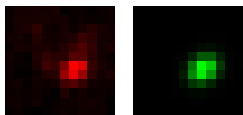
Coordinates : 114  $\mu\text{m}$  (x), 67.3  $\mu\text{m}$  (y), 2.35  $\mu\text{m}$  (z)

Corresponding bead : Not found

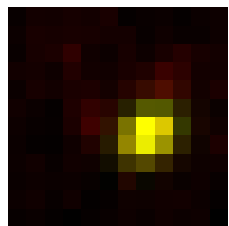
FWHM	Non corrected	Corrected	Theoretical
min	449 nm	468 nm	270 nm
max	562 nm	585 nm	270 nm
z	2.75 $\mu\text{m}$	2.76 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.8		
Theta	40.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.912$



Parameters:

$A = 269.206$  (brightness)

$B = 121.377$  (background)

$a = 0.525$  px

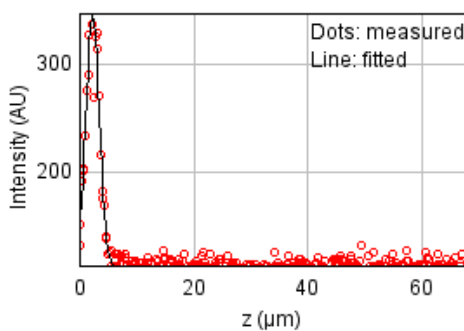
$b = 0.118$  px

$c = 0.566$  px

$x_c = 7.178$  px

$y_c = 6.397$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 20793.8898

Standard deviation: 8.22998

$R^2: 0.95945$

Parameters:

$a = 112.20352$

$b = 347.97092$

$c = 2.35209$

$d = 1.16937$

## Bead 42 (Rejected)

Date : Mon Oct 17 13:50:30 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 23.9  $\mu\text{m}$  (x), 64.6  $\mu\text{m}$  (y), 486 nm (z)

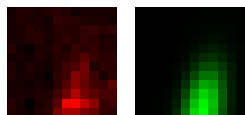
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

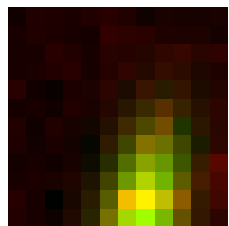
FWHM	Non corrected	Corrected	Theoretical
min	729 nm	759 nm	270 nm
max	1.73 $\mu\text{m}$	1.8 $\mu\text{m}$	270 nm
z	1.68 $\mu\text{m}$	1.68 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.421		
Theta	78.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.839$



Parameters:

A = 112.367 (brightness)

B = 114.415 (background)

a = 0.244 px

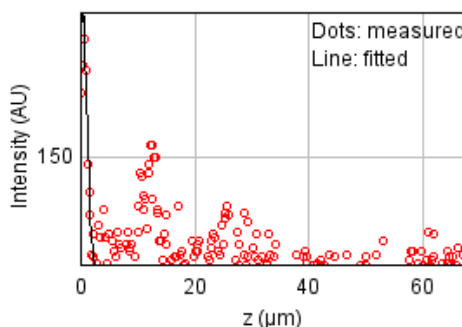
b = 0.041 px

c = 0.053 px

xc = 6.822 px

yc = 11.026 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 27220.0391

Standard deviation: 9.41619

$R^2$ : 0.52937

Parameters:

a = 116.20712

b = 194.98402

c = 0.48633

d = 0.71216

## Bead 43

Date : Mon Oct 17 13:50:30 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

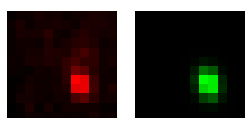
Coordinates : -30.7  $\mu\text{m}$  (x), 62.3  $\mu\text{m}$  (y), 2.46  $\mu\text{m}$  (z)

Corresponding bead : Not found

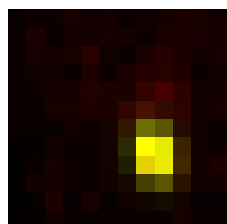
FWHM	Non corrected	Corrected	Theoretical
min	375 nm	391 nm	270 nm
max	522 nm	544 nm	270 nm
z	2.13 $\mu\text{m}$	2.14 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.718		
Theta	-77.9°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.926$



Parameters:

A = 357.190 (brightness)

B = 123.408 (background)

a = 0.934 px

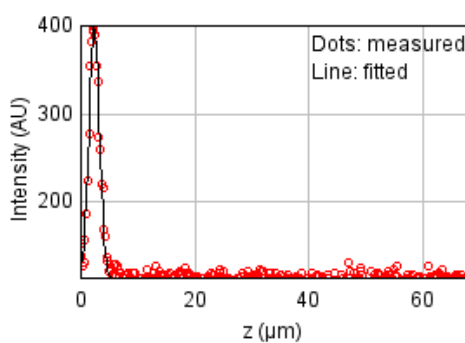
b = -0.095 px

c = 0.512 px

xc = 7.500 px

yc = 7.405 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 17247.3848

Standard deviation: 7.49536

$R^2$ : 0.97071

Parameters:

a = 113.79533

b = 400.42744

c = 2.46227

d = 0.90624

## Bead 44

Date : Mon Oct 17 13:50:30 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

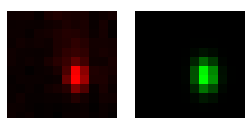
Coordinates : 64.1  $\mu\text{m}$  (x), 61.8  $\mu\text{m}$  (y), 2.68  $\mu\text{m}$  (z)

Corresponding bead : Not found

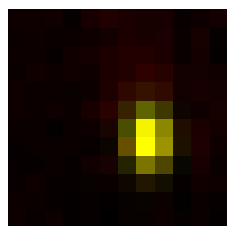
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	411 nm	270 nm
max	567 nm	591 nm	270 nm
z	2.33 $\mu\text{m}$	2.34 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.696		
Theta	-87.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.938$



Parameters:

A = 383.421 (brightness)

B = 124.244 (background)

a = 0.860 px

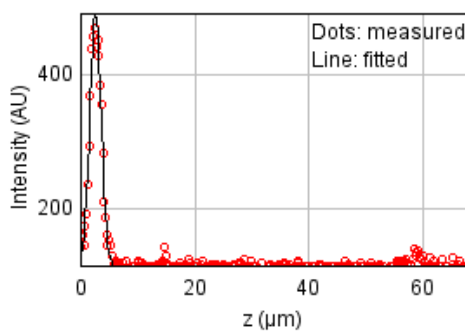
b = -0.017 px

c = 0.417 px

$x_c = 7.171$  px

$y_c = 6.562$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 24104.8714

Standard deviation: 8.86101

$R^2$ : 0.97798

Parameters:

a = 113.65056

b = 490.24297

c = 2.68228

d = 0.98803

## Bead 45 (Rejected)

Date : Mon Oct 17 13:50:30 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 150  $\mu\text{m}$  (x), 56.1  $\mu\text{m}$  (y), 525 nm (z)

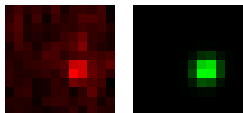
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

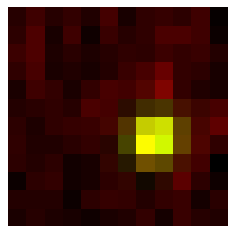
FWHM	Non corrected	Corrected	Theoretical
min	433 nm	451 nm	270 nm
max	464 nm	483 nm	270 nm
z	2.42 $\mu\text{m}$	2.43 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.933		
Theta	39.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.732$



Parameters:

A = 81.545 (brightness)

B = 114.171 (background)

a = 0.661 px

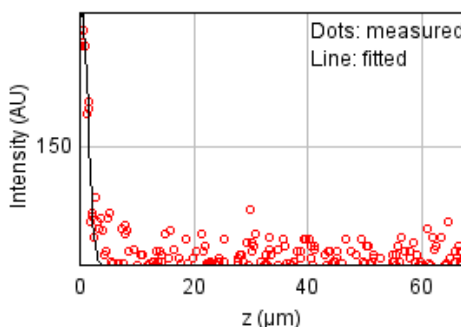
b = 0.046 px

c = 0.678 px

xc = 7.515 px

yc = 6.618 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 11732.6042

Standard deviation: 6.18199

$R^2$ : 0.79740

Parameters:

a = 110.28295

b = 194.74003

c = 0.52537

d = 1.02921

## Bead 46

Date : Mon Oct 17 13:50:31 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

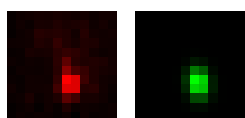
Coordinates : 27.6  $\mu\text{m}$  (x), 55.9  $\mu\text{m}$  (y), 2.89  $\mu\text{m}$  (z)

Corresponding bead : Not found

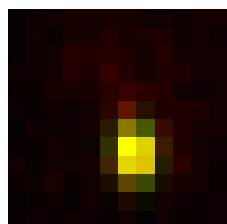
FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	539 nm	561 nm	270 nm
z	2.3 $\mu\text{m}$	2.31 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.701		
Theta	-83.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.918$



Parameters:

A = 403.976 (brightness)

B = 125.180 (background)

a = 0.932 px

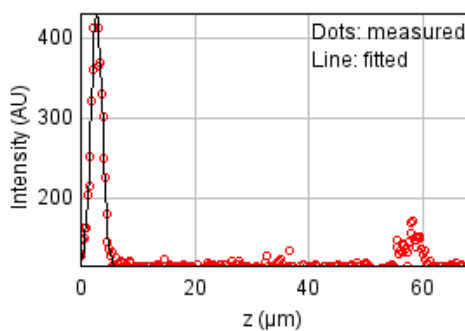
b = -0.056 px

c = 0.469 px

xc = 6.417 px

yc = 7.357 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 38141.0361

Standard deviation: 11.14621

$R^2$ : 0.95146

Parameters:

a = 115.15292

b = 431.52909

c = 2.89373

d = 0.97692

## Bead 47

Date : Mon Oct 17 13:50:31 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

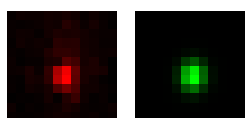
Coordinates : -94.0  $\mu\text{m}$  (x), 45.1  $\mu\text{m}$  (y), 2.28  $\mu\text{m}$  (z)

Corresponding bead : Not found

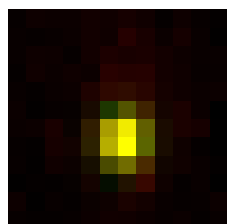
FWHM	Non corrected	Corrected	Theoretical
min	452 nm	471 nm	270 nm
max	532 nm	554 nm	270 nm
z	2.38 $\mu\text{m}$	2.39 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.85		
Theta	87.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.931$



Parameters:

$A = 294.557$  (brightness)

$B = 119.405$  (background)

$a = 0.655$  px

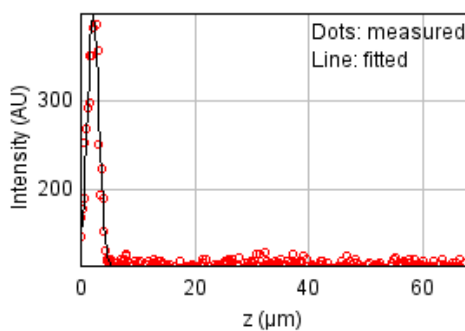
$b = 0.010$  px

$c = 0.474$  px

$x_c = 5.799$  px

$y_c = 6.594$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 24083.2781

Standard deviation: 8.85704

$R^2: 0.96383$

Parameters:

$a = 112.46092$

$b = 400.97299$

$c = 2.28337$

$d = 1.00971$

## Bead 48

Date : Mon Oct 17 13:50:31 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

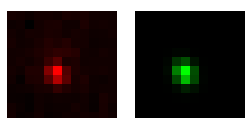
Coordinates : -107  $\mu\text{m}$  (x), 44.5  $\mu\text{m}$  (y), 18.2  $\mu\text{m}$  (z)

Corresponding bead : Not found

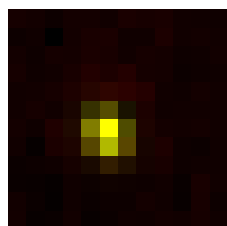
FWHM	Non corrected	Corrected	Theoretical
min	362 nm	377 nm	270 nm
max	438 nm	457 nm	270 nm
z	1.99 $\mu\text{m}$	1.99 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.825		
Theta	-64.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.945$



Parameters:

A = 354.226 (brightness)

B = 119.201 (background)

a = 0.965 px

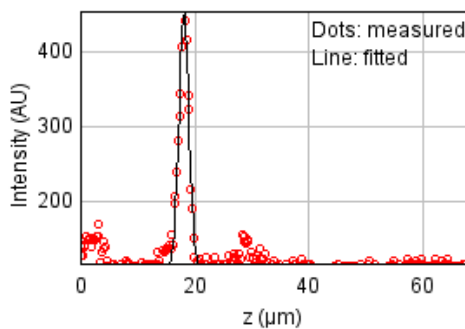
b = -0.127 px

c = 0.759 px

xc = 4.904 px

yc = 6.272 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 54569.8430

Standard deviation: 13.33236

$R^2$ : 0.93057

Parameters:

a = 117.86079

b = 453.41537

c = 18.18523

d = 0.84350



## Bead 49

Date : Mon Oct 17 13:50:31 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

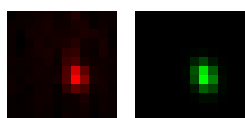
Coordinates : -25.5  $\mu\text{m}$  (x), 34.1  $\mu\text{m}$  (y), 2.58  $\mu\text{m}$  (z)

Corresponding bead : Not found

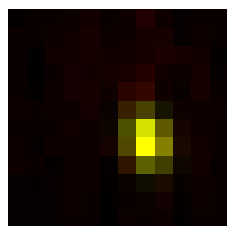
FWHM	Non corrected	Corrected	Theoretical
min	365 nm	380 nm	270 nm
max	510 nm	531 nm	270 nm
z	2.14 $\mu\text{m}$	2.15 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.716		
Theta	-74.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.949$



Parameters:

A = 419.808 (brightness)

B = 122.166 (background)

a = 0.972 px

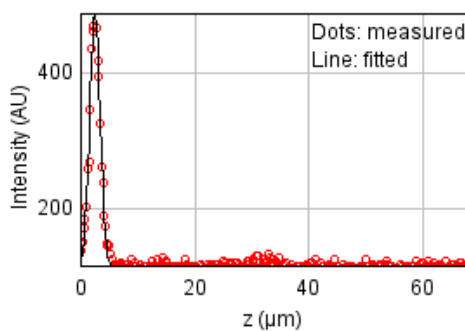
b = -0.126 px

c = 0.551 px

xc = 7.100 px

yc = 6.639 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 18032.8512

Standard deviation: 7.66413

$R^2$ : 0.98195

Parameters:

a = 113.64283

b = 488.97173

c = 2.58402

d = 0.90746

## Bead 50

Date : Mon Oct 17 13:50:31 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

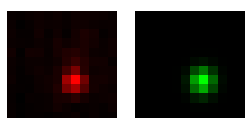
Coordinates : -42.7  $\mu\text{m}$  (x), 22.1  $\mu\text{m}$  (y), 2.59  $\mu\text{m}$  (z)

Corresponding bead : Not found

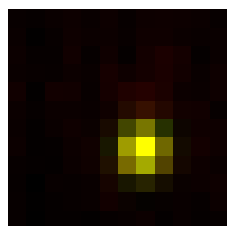
FWHM	Non corrected	Corrected	Theoretical
min	437 nm	455 nm	270 nm
max	477 nm	496 nm	270 nm
z	2.06 $\mu\text{m}$	2.07 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.916		
Theta	83.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.955$



Parameters:

A = 494.639 (brightness)

B = 126.919 (background)

a = 0.702 px

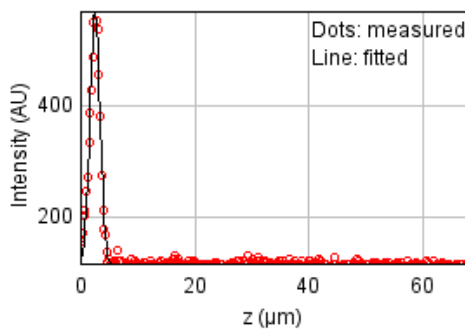
b = 0.013 px

c = 0.592 px

xc = 6.848 px

yc = 7.158 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 26271.6177

Standard deviation: 9.25069

$R^2$ : 0.98174

Parameters:

a = 113.58653

b = 571.66657

c = 2.59248

d = 0.87577

## Bead 51 (Rejected)

Date : Mon Oct 17 13:50:32 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -68.1  $\mu\text{m}$  (x), 21.9  $\mu\text{m}$  (y), 11.6  $\mu\text{m}$  (z)

Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
z	4.27 $\mu\text{m}$	4.28 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.0		
Theta	0.0°		

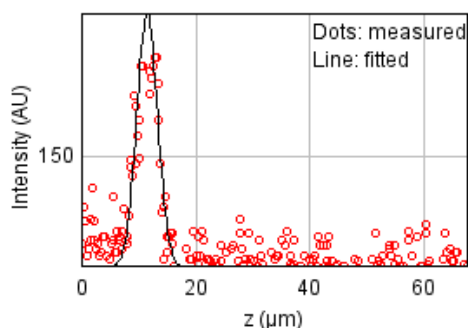
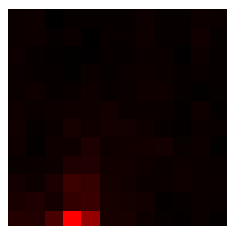
### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

Sum of residuals squared: 18412.7195

Standard deviation: 7.74444

R<sup>2</sup>: 0.83067

Parameters:

a = 114.15362

b = 196.83592

c = 11.57086

d = 1.81165

## Bead 52 (Rejected)

Date : Mon Oct 17 13:50:32 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 161 um (x), 2.83 um (y), 1.51 um (z)

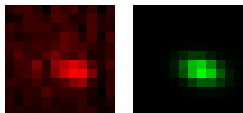
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

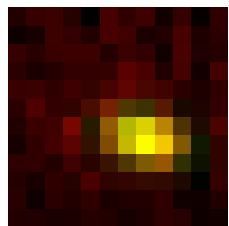
FWHM	Non corrected	Corrected	Theoretical
min	459 nm	478 nm	270 nm
max	724 nm	754 nm	270 nm
z	3.7 um	3.71 um	1.3 um
Asymmetry	0.634		
Theta	-15.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.769$



Parameters:

A = 103.805 (brightness)

B = 116.125 (background)

a = 0.284 px

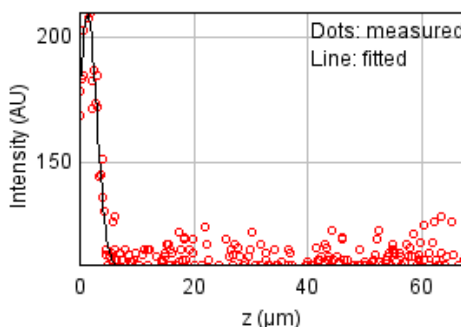
b = -0.099 px

c = 0.609 px

xc = 6.944 px

yc = 6.651 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13906.3712

Standard deviation: 6.73035

$R^2$ : 0.88833

Parameters:

a = 109.50219

b = 209.82679

c = 1.51348

d = 1.56933

## Bead 53

Date : Mon Oct 17 13:50:32 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

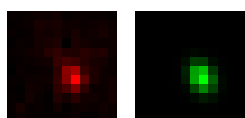
Coordinates : 78.7  $\mu\text{m}$  (x), -9.07  $\mu\text{m}$  (y), 2.24  $\mu\text{m}$  (z)

Corresponding bead : Not found

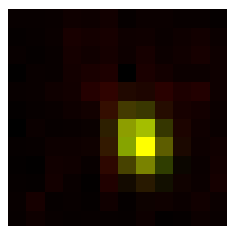
FWHM	Non corrected	Corrected	Theoretical
min	416 nm	433 nm	270 nm
max	561 nm	584 nm	270 nm
z	2.26 $\mu\text{m}$	2.27 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.742		
Theta	-67.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.920$



Parameters:

$A = 300.141$  (brightness)

$B = 122.818$  (background)

$a = 0.724$  px

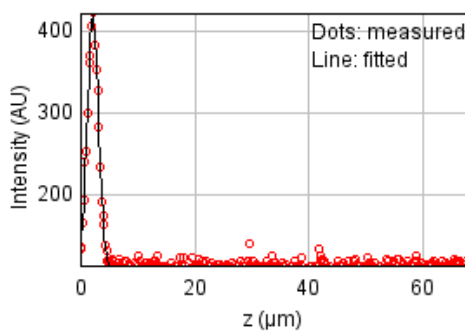
$b = -0.125$  px

$c = 0.479$  px

$x_c = 6.757$  px

$y_c = 6.739$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14086.4952

Standard deviation: 6.77380

$R^2: 0.98037$

Parameters:

$a = 112.60500$

$b = 421.81130$

$c = 2.23698$

$d = 0.96142$

## Bead 54 (Rejected)

Date : Mon Oct 17 13:50:32 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 38.8  $\mu\text{m}$  (x), -21.7  $\mu\text{m}$  (y), 3.08  $\mu\text{m}$  (z)

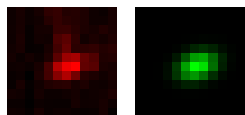
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

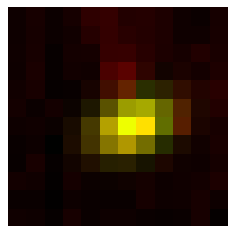
FWHM	Non corrected	Corrected	Theoretical
min	497 nm	518 nm	270 nm
max	731 nm	761 nm	270 nm
z	2.71 $\mu\text{m}$	2.72 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.68		
Theta	21.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.873$



Parameters:

A = 237.324 (brightness)

B = 119.633 (background)

a = 0.290 px

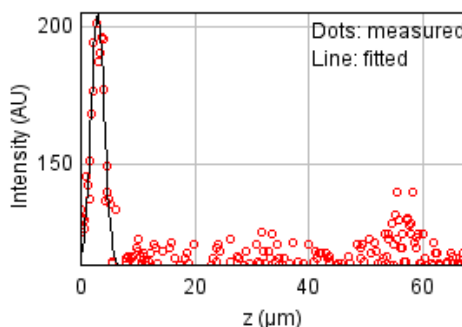
b = 0.099 px

c = 0.504 px

xc = 6.310 px

yc = 5.919 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 15827.0810

Standard deviation: 7.18011

$R^2$ : 0.82338

Parameters:

a = 113.32025

b = 205.37579

c = 3.07606

d = 1.14952

## Bead 55 (Rejected)

Date : Mon Oct 17 13:50:33 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 136  $\mu\text{m}$  (x), -44.5  $\mu\text{m}$  (y), 1.85  $\mu\text{m}$  (z)

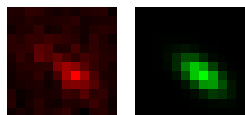
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

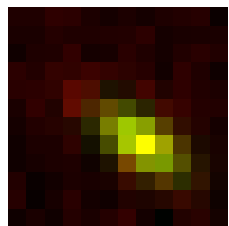
FWHM	Non corrected	Corrected	Theoretical
min	445 nm	463 nm	270 nm
max	878 nm	914 nm	270 nm
z	3.1 $\mu\text{m}$	3.11 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.506		
Theta	-36.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.822$



Parameters:

A = 114.120 (brightness)

B = 115.419 (background)

a = 0.350 px

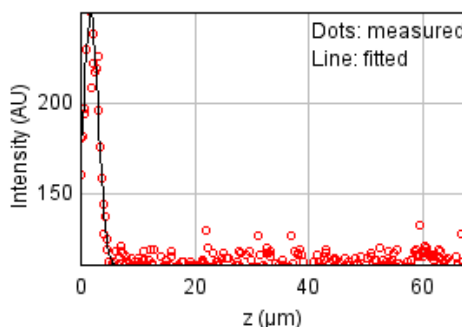
b = -0.240 px

c = 0.503 px

xc = 6.759 px

yc = 6.852 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 17180.3460

Standard deviation: 7.48078

$R^2$ : 0.91698

Parameters:

a = 110.55210

b = 249.80116

c = 1.85326

d = 1.31622

## Bead 56 (Rejected)

Date : Mon Oct 17 13:50:33 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 20.6  $\mu\text{m}$  (x), -52.5  $\mu\text{m}$  (y), 3.77  $\mu\text{m}$  (z)

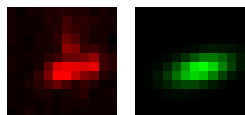
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

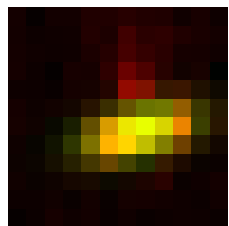
FWHM	Non corrected	Corrected	Theoretical
min	486 nm	506 nm	270 nm
max	1.08 $\mu\text{m}$	1.12 $\mu\text{m}$	270 nm
z	3.46 $\mu\text{m}$	3.48 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.451		
Theta	14.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.837$



Parameters:

$A = 306.172$  (brightness)

$B = 123.299$  (background)

$a = 0.143$  px

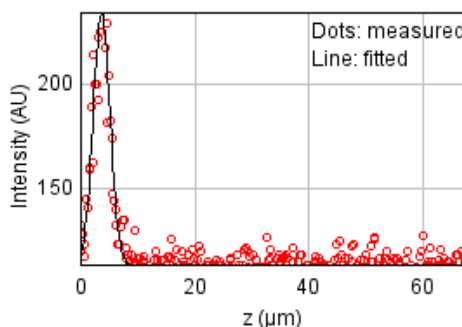
$b = 0.108$  px

$c = 0.542$  px

$xc = 6.629$  px

$yc = 6.302$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14606.3040

Standard deviation: 6.89765

$R^2: 0.91621$

Parameters:

$a = 113.17563$

$b = 233.98441$

$c = 3.76945$

$d = 1.47064$



## Bead 57 (Rejected)

Date : Mon Oct 17 13:50:33 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 39.5  $\mu\text{m}$  (x), -66.6  $\mu\text{m}$  (y), 2.35  $\mu\text{m}$  (z)

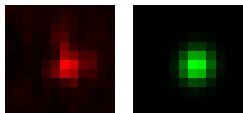
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

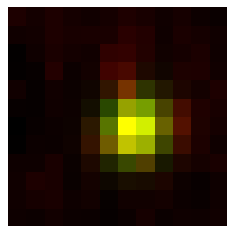
FWHM	Non corrected	Corrected	Theoretical
min	561 nm	584 nm	270 nm
max	613 nm	639 nm	270 nm
z	2.46 $\mu\text{m}$	2.47 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.915		
Theta	74.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.870$



Parameters:

A = 244.677 (brightness)

B = 119.390 (background)

a = 0.421 px

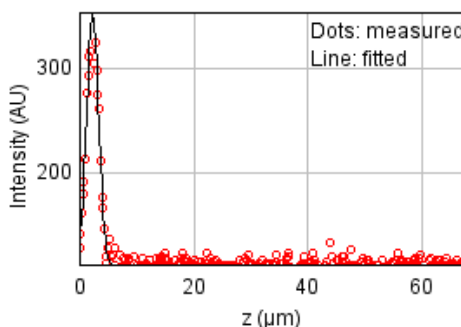
b = 0.018 px

c = 0.362 px

xc = 6.420 px

yc = 6.104 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 16107.7942

Standard deviation: 7.24351

$R^2$ : 0.96622

Parameters:

a = 112.95754

b = 353.48830

c = 2.35385

d = 1.04509

## Bead 58 (Rejected)

Date : Mon Oct 17 13:50:33 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 57.1  $\mu\text{m}$  (x), -69.1  $\mu\text{m}$  (y), 3.86  $\mu\text{m}$  (z)

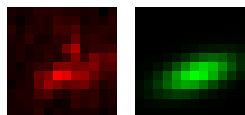
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

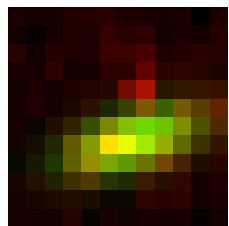
FWHM	Non corrected	Corrected	Theoretical
min	558 nm	582 nm	270 nm
max	1.32 $\mu\text{m}$	1.37 $\mu\text{m}$	270 nm
z	2.22 $\mu\text{m}$	2.23 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.425		
Theta	17.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.720$



Parameters:

A = 127.700 (brightness)

B = 120.405 (background)

a = 0.110 px

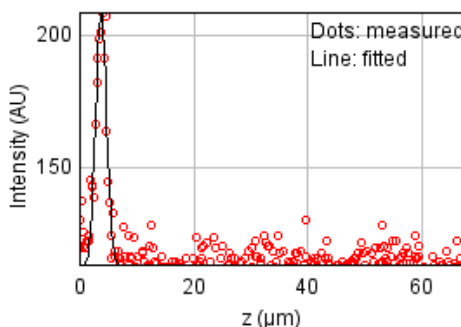
b = 0.101 px

c = 0.398 px

xc = 6.323 px

yc = 6.785 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 12590.5428

Standard deviation: 6.40403

$R^2$ : 0.84093

Parameters:

a = 113.24340

b = 209.27294

c = 3.85605

d = 0.94234

## Bead 59 (Rejected)

Date : Mon Oct 17 13:50:33 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 111 um (x), -72.6 um (y), 3.42 um (z)

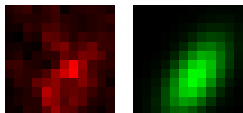
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

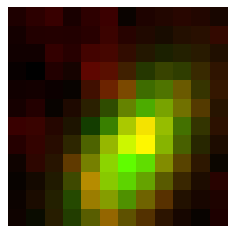
FWHM	Non corrected	Corrected	Theoretical
min	818 nm	852 nm	270 nm
max	1.55 um	1.61 um	270 nm
z	3.96 um	3.97 um	1.3 um
Asymmetry	0.528		
Theta	57.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.691$



Parameters:

A = 89.165 (brightness)

B = 120.262 (background)

a = 0.158 px

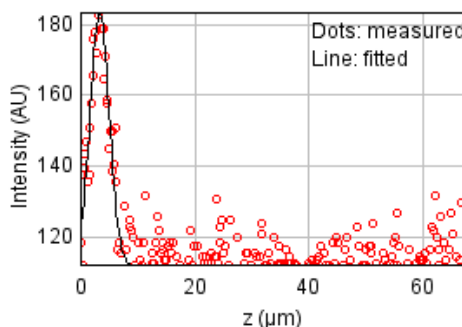
b = 0.066 px

c = 0.099 px

xc = 6.332 px

yc = 7.374 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14304.0363

Standard deviation: 6.82590

$R^2$ : 0.81439

Parameters:

a = 112.13810

b = 183.37362

c = 3.42078

d = 1.68011

## Bead 60 (Rejected)

Date : Mon Oct 17 13:50:34 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 27.4  $\mu\text{m}$  (x), -74.3  $\mu\text{m}$  (y), 880 nm (z)

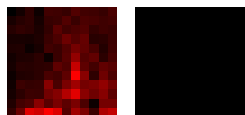
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

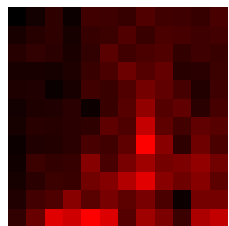
FWHM	Non corrected	Corrected	Theoretical
min	66.6 nm	69.4 nm	270 nm
max	142 nm	148 nm	270 nm
z	4.71 $\mu\text{m}$	4.73 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.47		
Theta	87.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.028$



Parameters:

A = -27.709 (brightness)

B = 128.014 (background)

a = 30.180 px

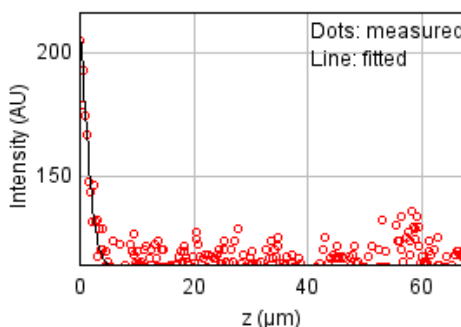
b = 1.044 px

c = 6.711 px

xc = -2.605 px

yc = 3.368 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 16301.5813

Standard deviation: 7.28695

$R^2$ : 0.75341

Parameters:

a = 114.13765

b = 237.94985

c = -1.24919

d = 2.00039

## Bead 61 (Rejected)

Date : Mon Oct 17 13:50:34 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 29.3  $\mu\text{m}$  (x), -76.0  $\mu\text{m}$  (y), 283 nm (z)

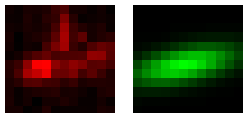
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

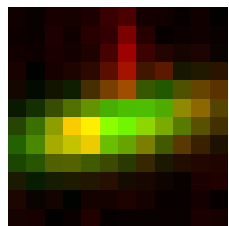
FWHM	Non corrected	Corrected	Theoretical
min	627 nm	653 nm	270 nm
max	1.93 $\mu\text{m}$	2.01 $\mu\text{m}$	270 nm
z	2.03 $\mu\text{m}$	2.03 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.324		
Theta	11.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.586$



Parameters:

A = 116.112 (brightness)

B = 123.295 (background)

a = 0.049 px

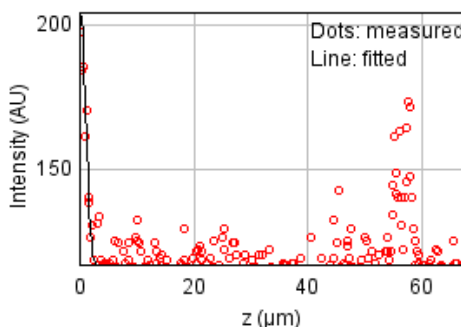
b = 0.061 px

c = 0.329 px

xc = 5.071 px

yc = 6.052 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 34648.3682

Standard deviation: 10.62361

$R^2$ : 0.52543

Parameters:

a = 117.00396

b = 204.60788

c = 0.28264

d = 0.86022

## Bead 62

Date : Mon Oct 17 13:50:34 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

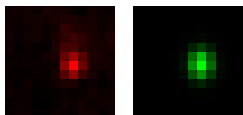
Coordinates : 55.0  $\mu\text{m}$  (x), 82.9  $\mu\text{m}$  (y), 2.54  $\mu\text{m}$  (z)

Corresponding bead : Not found

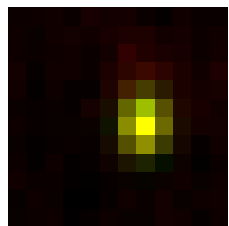
FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	557 nm	580 nm	270 nm
z	2.01 $\mu\text{m}$	2.02 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.764		
Theta	88.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.917$



Parameters:

A = 319.356 (brightness)

B = 119.081 (background)

a = 0.741 px

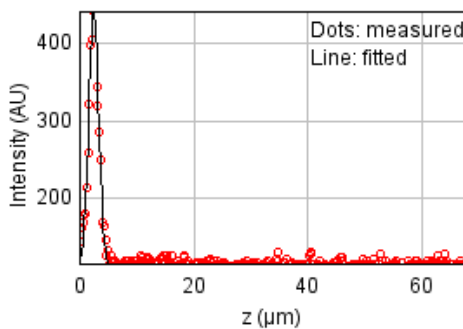
b = 0.011 px

c = 0.433 px

xc = 6.904 px

yc = 5.837 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 20608.7504

Standard deviation: 8.19326

$R^2$ : 0.97203

Parameters:

a = 113.46866

b = 443.81445

c = 2.53959

d = 0.85247

## Bead 63 (Rejected)

Date : Mon Oct 17 13:50:34 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -14.3  $\mu\text{m}$  (x), 81.7  $\mu\text{m}$  (y), 2.86  $\mu\text{m}$  (z)

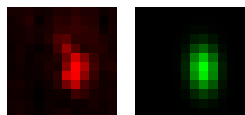
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

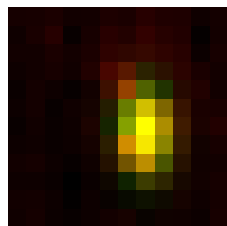
FWHM	Non corrected	Corrected	Theoretical
min	505 nm	525 nm	270 nm
max	838 nm	873 nm	270 nm
z	2.72 $\mu\text{m}$	2.74 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.602		
Theta	-87.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.880$



Parameters:

A = 295.660 (brightness)

B = 119.941 (background)

a = 0.526 px

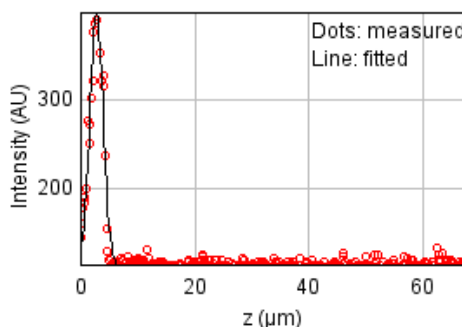
b = -0.018 px

c = 0.192 px

xc = 6.945 px

yc = 6.238 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 29176.0316

Standard deviation: 9.74864

$R^2$ : 0.96078

Parameters:

a = 112.67334

b = 398.28221

c = 2.86019

d = 1.15688

## Bead 64

Date : Mon Oct 17 13:50:34 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

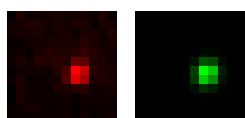
Coordinates : 114  $\mu\text{m}$  (x), 44.5  $\mu\text{m}$  (y), 2.42  $\mu\text{m}$  (z)

Corresponding bead : Not found

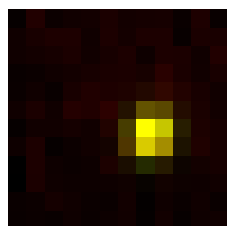
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	412 nm	270 nm
max	451 nm	470 nm	270 nm
z	2.31 $\mu\text{m}$	2.32 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.877		
Theta	73.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.938$



Parameters:

$A = 309.179$  (brightness)

$B = 119.444$  (background)

$a = 0.842$  px

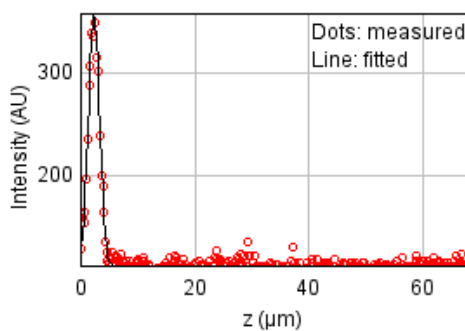
$b = 0.055$  px

$c = 0.677$  px

$xc = 7.328$  px

$yc = 6.304$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14107.2980

Standard deviation: 6.77880

$R^2: 0.96956$

Parameters:

$a = 112.29594$

$b = 357.12632$

$c = 2.42266$

$d = 0.98046$



## Bead 65

Date : Mon Oct 17 13:50:35 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

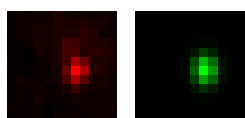
Coordinates : 64.5  $\mu\text{m}$  (x), 43.7  $\mu\text{m}$  (y), 2.91  $\mu\text{m}$  (z)

Corresponding bead : Not found

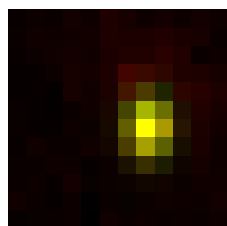
FWHM	Non corrected	Corrected	Theoretical
min	424 nm	442 nm	270 nm
max	580 nm	605 nm	270 nm
z	2.32 $\mu\text{m}$	2.33 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.73		
Theta	-89.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.911$



Parameters:

A = 363.035 (brightness)

B = 122.401 (background)

a = 0.747 px

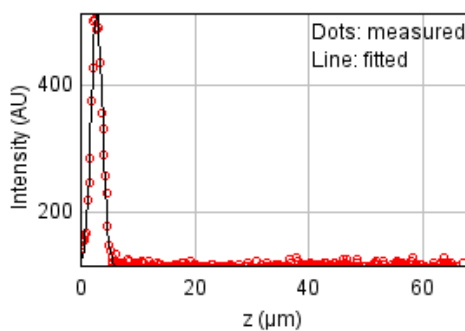
b = -0.001 px

c = 0.398 px

xc = 7.159 px

yc = 5.922 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 19863.3585

Standard deviation: 8.04372

$R^2$ : 0.98398

Parameters:

a = 112.89370

b = 515.45555

c = 2.91038

d = 0.98492

## Bead 66 (Rejected)

Date : Mon Oct 17 13:50:35 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 162  $\mu\text{m}$  (x), 21.0  $\mu\text{m}$  (y), 1.24  $\mu\text{m}$  (z)

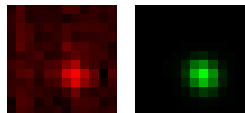
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

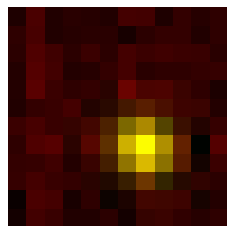
FWHM	Non corrected	Corrected	Theoretical
min	505 nm	526 nm	270 nm
max	559 nm	582 nm	270 nm
z	2.73 $\mu\text{m}$	2.74 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.904		
Theta	-44.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.778$



Parameters:

A = 86.355 (brightness)

B = 114.459 (background)

a = 0.477 px

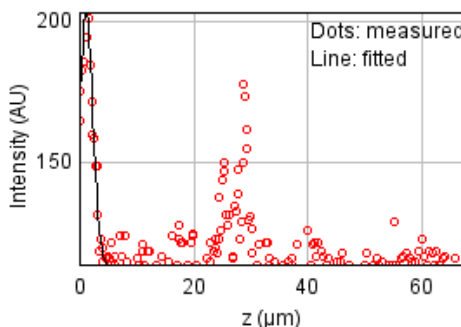
b = -0.048 px

c = 0.478 px

xc = 6.898 px

yc = 7.151 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 35539.7774

Standard deviation: 10.75940

$R^2$ : 0.65864

Parameters:

a = 113.42330

b = 203.47498

c = 1.24472

d = 1.16081

## Bead 67

Date : Mon Oct 17 13:50:35 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

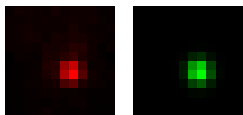
Coordinates : -52.2  $\mu\text{m}$  (x), 20.9  $\mu\text{m}$  (y), 2.82  $\mu\text{m}$  (z)

Corresponding bead : Not found

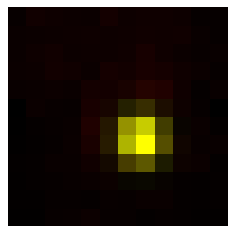
FWHM	Non corrected	Corrected	Theoretical
min	419 nm	436 nm	270 nm
max	456 nm	475 nm	270 nm
z	2.18 $\mu\text{m}$	2.19 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.918		
Theta	-86.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.966$



Parameters:

$A = 563.587$  (brightness)

$B = 124.602$  (background)

$a = 0.765$  px

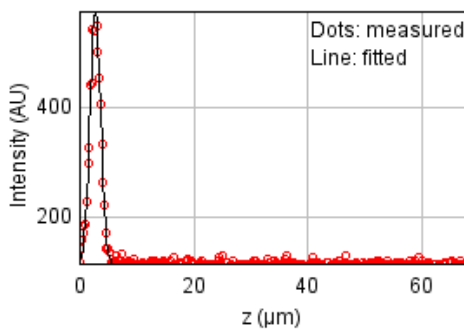
$b = -0.008$  px

$c = 0.646$  px

$x_c = 6.724$  px

$y_c = 6.669$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 21119.7870

Standard deviation: 8.29422

$R^2 = 0.98633$

Parameters:

$a = 113.59544$

$b = 576.64489$

$c = 2.82423$

$d = 0.92730$

## Bead 68 (Rejected)

Date : Mon Oct 17 13:50:35 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 24.0  $\mu\text{m}$  (x), 9.79  $\mu\text{m}$  (y), 2.81  $\mu\text{m}$  (z)

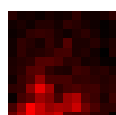
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
z	1.62 $\mu\text{m}$	1.63 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.0		
Theta	0.0°		

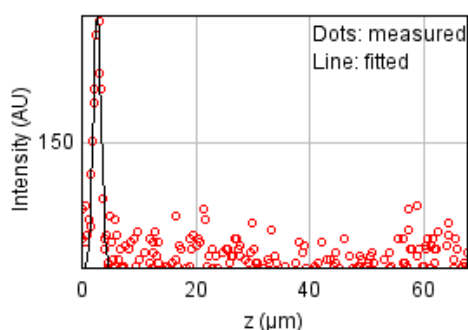
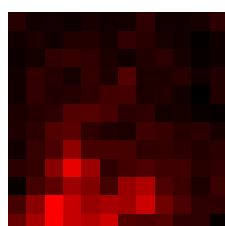
### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

Sum of residuals squared: 13423.1101

Standard deviation: 6.61237

R<sup>2</sup>: 0.68869

Parameters:

a = 113.22975

b = 187.67538

c = 2.81107

d = 0.68997

## Bead 69 (Rejected)

Date : Mon Oct 17 13:50:36 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -50.3  $\mu\text{m}$  (x), 5.66  $\mu\text{m}$  (y), 3.06  $\mu\text{m}$  (z)

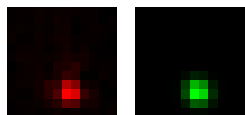
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

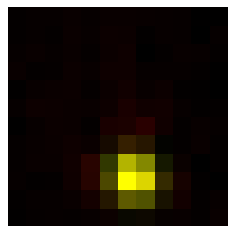
FWHM	Non corrected	Corrected	Theoretical
min	421 nm	438 nm	270 nm
max	450 nm	469 nm	270 nm
z	4.96 $\mu\text{m}$	4.98 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.935		
Theta	-53.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.963$



Parameters:

A = 594.726 (brightness)

B = 124.635 (background)

a = 0.723 px

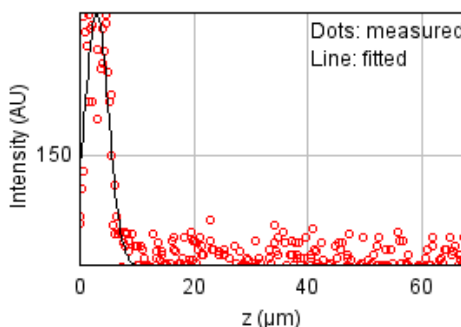
b = -0.046 px

c = 0.696 px

xc = 6.359 px

yc = 8.777 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 19510.0455

Standard deviation: 7.97187

$R^2$ : 0.85381

Parameters:

a = 112.09080

b = 199.10003

c = 3.05672

d = 2.10536

## Bead 70 (Rejected)

Date : Mon Oct 17 13:50:36 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -158  $\mu\text{m}$  (x), -4.54  $\mu\text{m}$  (y), 2.24  $\mu\text{m}$  (z)

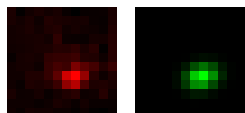
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

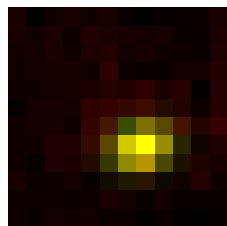
FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	588 nm	612 nm	270 nm
z	2.7 $\mu\text{m}$	2.71 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.749		
Theta	14.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.893$



Parameters:

A = 184.881 (brightness)

B = 118.794 (background)

a = 0.408 px

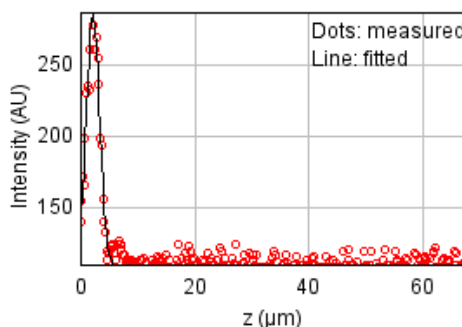
b = 0.075 px

c = 0.673 px

xc = 6.763 px

yc = 7.131 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13139.2232

Standard deviation: 6.54208

$R^2$ : 0.95352

Parameters:

a = 110.27284

b = 286.48521

c = 2.24100

d = 1.14545

## Bead 71

Date : Mon Oct 17 13:50:36 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

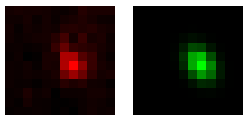
Coordinates : 90.4  $\mu\text{m}$  (x), -56.4  $\mu\text{m}$  (y), 2.91  $\mu\text{m}$  (z)

Corresponding bead : Not found

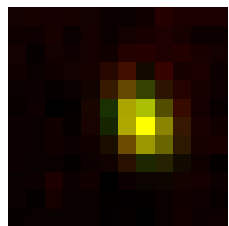
FWHM	Non corrected	Corrected	Theoretical
min	467 nm	486 nm	270 nm
max	644 nm	671 nm	270 nm
z	2.59 $\mu\text{m}$	2.6 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.725		
Theta	-58.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.916$



Parameters:

$A = 266.411$  (brightness)

$B = 120.582$  (background)

$a = 0.535$  px

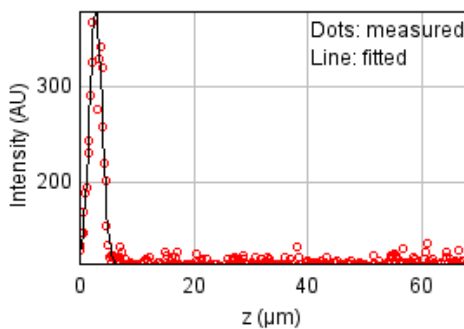
$b = -0.130$  px

$c = 0.404$  px

$x_c = 6.840$  px

$y_c = 5.799$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 23966.9104

Standard deviation: 8.83562

$R^2: 0.96153$

Parameters:

$a = 112.39283$

$b = 380.31788$

$c = 2.91426$

$d = 1.09864$

## Bead 72 (Rejected)

Date : Mon Oct 17 13:50:36 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -33.1  $\mu\text{m}$  (x), -81.6  $\mu\text{m}$  (y), 414 nm (z)

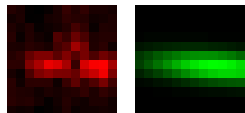
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

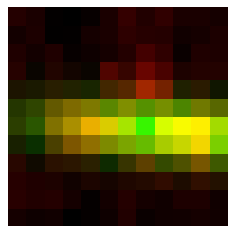
FWHM	Non corrected	Corrected	Theoretical
min	577 nm	601 nm	270 nm
max	2.68 $\mu\text{m}$	2.79 $\mu\text{m}$	270 nm
z	1.93 $\mu\text{m}$	1.94 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.215		
Theta	-4.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.748$



Parameters:

A = 106.456 (brightness)

B = 118.810 (background)

a = 0.021 px

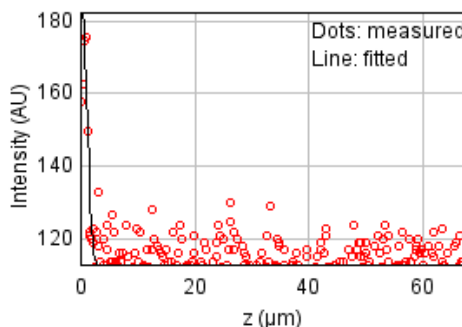
b = -0.028 px

c = 0.401 px

xc = 8.630 px

yc = 6.269 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13418.1110

Standard deviation: 6.61114

$R^2$ : 0.65607

Parameters:

a = 112.57632

b = 182.34494

c = 0.41402

d = 0.82151



## Bead 73

Date : Mon Oct 17 13:50:36 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

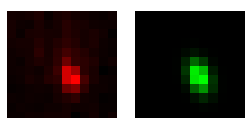
Coordinates : -58.0  $\mu\text{m}$  (x), 85.1  $\mu\text{m}$  (y), 2.79  $\mu\text{m}$  (z)

Corresponding bead : Not found

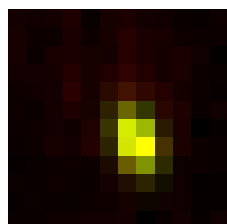
FWHM	Non corrected	Corrected	Theoretical
min	379 nm	395 nm	270 nm
max	599 nm	624 nm	270 nm
z	1.99 $\mu\text{m}$	2.0 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.633		
Theta	-70.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.932$



Parameters:

A = 332.642 (brightness)

B = 120.102 (background)

a = 0.869 px

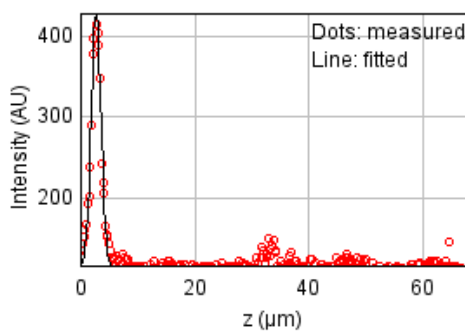
b = -0.179 px

c = 0.439 px

xc = 6.494 px

yc = 6.667 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 29852.0838

Standard deviation: 9.86094

$R^2$ : 0.95552

Parameters:

a = 115.33254

b = 429.09540

c = 2.79250

d = 0.84602

## Bead 74 (Rejected)

Date : Mon Oct 17 13:50:37 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 158  $\mu\text{m}$  (x), 82.9  $\mu\text{m}$  (y), 2.52  $\mu\text{m}$  (z)

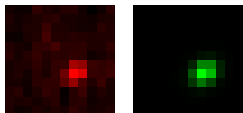
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

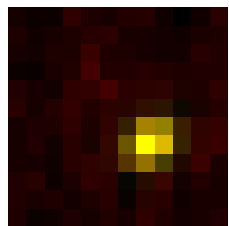
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	409 nm	270 nm
max	483 nm	503 nm	270 nm
z	2.6 $\mu\text{m}$	2.61 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.813		
Theta	41.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.864$



Parameters:

A = 159.408 (brightness)

B = 116.452 (background)

a = 0.706 px

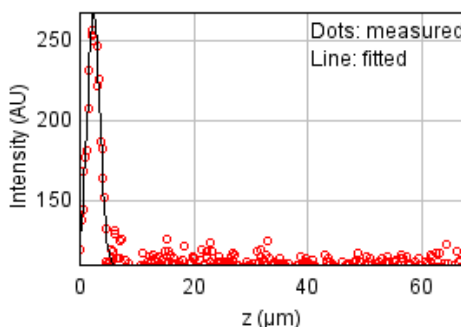
b = 0.147 px

c = 0.741 px

xc = 7.302 px

yc = 6.890 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 12783.3262

Standard deviation: 6.45287

$R^2$ : 0.94222

Parameters:

a = 109.80009

b = 267.43540

c = 2.51687

d = 1.10443

## Bead 75 (Rejected)

Date : Mon Oct 17 13:50:37 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 161 um (x), 59.7 um (y), 650 nm (z)

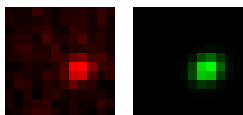
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

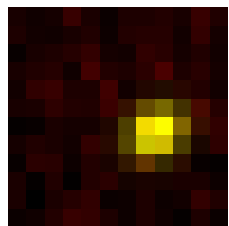
FWHM	Non corrected	Corrected	Theoretical
min	448 nm	466 nm	270 nm
max	537 nm	560 nm	270 nm
z	3.69 um	3.71 um	1.3 um
Asymmetry	0.833		
Theta	36.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.867$



Parameters:

A = 100.470 (brightness)

B = 114.835 (background)

a = 0.536 px

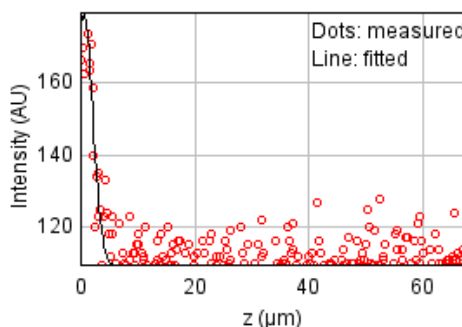
b = 0.098 px

c = 0.599 px

xc = 7.581 px

yc = 6.314 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 12713.0856

Standard deviation: 6.43511

$R^2$ : 0.77937

Parameters:

a = 109.14235

b = 179.65142

c = 0.65027

d = 1.56726

## Bead 76

Date : Mon Oct 17 13:50:37 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

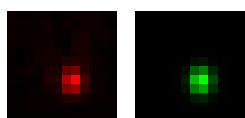
Coordinates : -50.0  $\mu\text{m}$  (x), 30.2  $\mu\text{m}$  (y), 3.36  $\mu\text{m}$  (z)

Corresponding bead : Not found

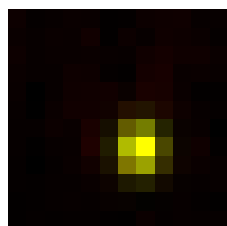
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	480 nm	500 nm	270 nm
z	2.18 $\mu\text{m}$	2.19 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.854		
Theta	-89.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.970$



Parameters:

$A = 492.193$  (brightness)

$B = 122.297$  (background)

$a = 0.799$  px

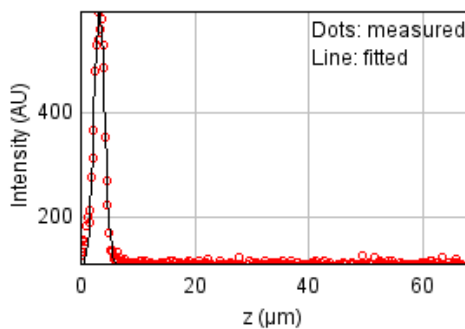
$b = -0.002$  px

$c = 0.582$  px

$x_c = 6.695$  px

$y_c = 7.108$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 29785.6155

Standard deviation: 9.84995

$R^2 = 0.98196$

Parameters:

$a = 112.46431$

$b = 590.55099$

$c = 3.36248$

$d = 0.92495$

## Bead 77 (Rejected)

Date : Mon Oct 17 13:50:37 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -53.4  $\mu\text{m}$  (x), 22.8  $\mu\text{m}$  (y), 671 nm (z)

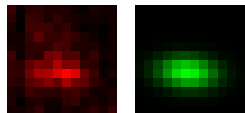
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

FWHM	Non corrected	Corrected	Theoretical
min	592 nm	617 nm	270 nm
max	1.08 $\mu\text{m}$	1.13 $\mu\text{m}$	270 nm
z	1.61 $\mu\text{m}$	1.62 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.546		
Theta	-4.3°		

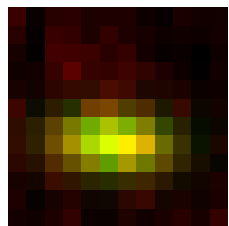
### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$

$R^2 = 0.809$



Parameters:

$A = 108.484$  (brightness)

$B = 120.350$  (background)

$a = 0.116$  px

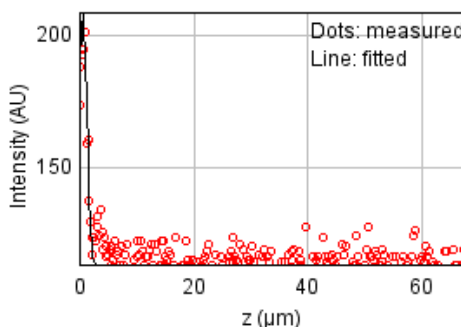
$b = -0.020$  px

$c = 0.381$  px

$xc = 5.208$  px

$yc = 6.861$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 11971.0497

Standard deviation: 6.24449

$R^2: 0.79383$

Parameters:

$a = 113.47924$

$b = 208.76653$

$c = 0.67137$

$d = 0.68411$

## Bead 78

Date : Mon Oct 17 13:50:37 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

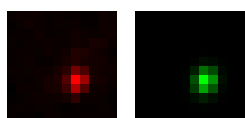
Coordinates : -91.3  $\mu\text{m}$  (x), 11.7  $\mu\text{m}$  (y), 3.49  $\mu\text{m}$  (z)

Corresponding bead : Not found

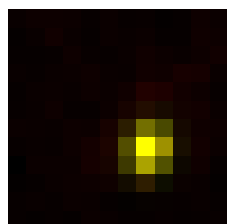
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	465 nm	484 nm	270 nm
z	2.09 $\mu\text{m}$	2.1 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.831		
Theta	75.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.971$



Parameters:

A = 649.983 (brightness)

B = 124.408 (background)

a = 0.880 px

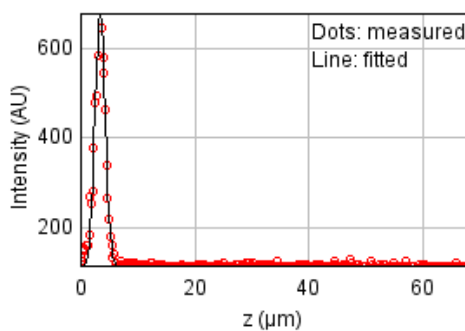
b = 0.069 px

c = 0.639 px

xc = 7.167 px

yc = 7.133 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 34432.1823

Standard deviation: 10.59042

$R^2$ : 0.98441

Parameters:

a = 113.86854

b = 678.07774

c = 3.48869

d = 0.88880

## Bead 79

Date : Mon Oct 17 13:50:37 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

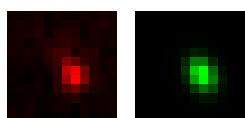
Coordinates : 106  $\mu\text{m}$  (x), -17.1  $\mu\text{m}$  (y), 3.29  $\mu\text{m}$  (z)

Corresponding bead : Not found

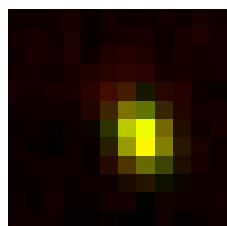
FWHM	Non corrected	Corrected	Theoretical
min	459 nm	478 nm	270 nm
max	619 nm	645 nm	270 nm
z	2.83 $\mu\text{m}$	2.84 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.742		
Theta	-62.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.939$



Parameters:

$A = 300.583$  (brightness)

$B = 122.465$  (background)

$a = 0.575$  px

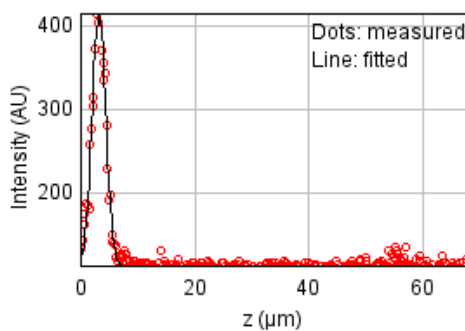
$b = -0.118$  px

$c = 0.412$  px

$x_c = 6.791$  px

$y_c = 6.406$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 23838.3076

Standard deviation: 8.81188

$R^2 = 0.97203$

Parameters:

$a = 113.35198$

$b = 415.41039$

$c = 3.29204$

$d = 1.20209$

## Bead 80 (Rejected)

Date : Mon Oct 17 13:50:37 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -71.3  $\mu\text{m}$  (x), -45.6  $\mu\text{m}$  (y), 332 nm (z)

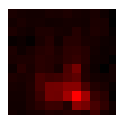
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
z	3.33 $\mu\text{m}$	3.34 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.0		
Theta	0.0°		

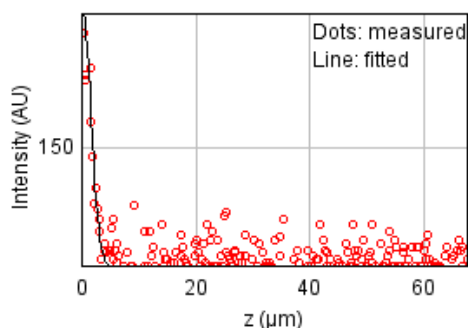
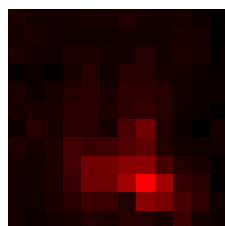
### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

Sum of residuals squared: 13045.3059

Standard deviation: 6.51865

R<sup>2</sup>: 0.78564

Parameters:

a = 112.45113

b = 193.27793

c = 0.33211

d = 1.41396



## Bead 81

Date : Mon Oct 17 13:50:38 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

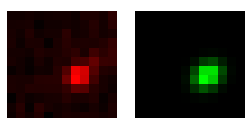
Coordinates : -142  $\mu\text{m}$  (x), -54.3  $\mu\text{m}$  (y), 2.53  $\mu\text{m}$  (z)

Corresponding bead : Not found

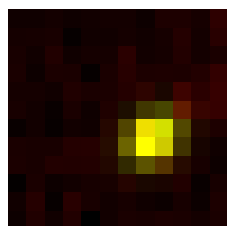
FWHM	Non corrected	Corrected	Theoretical
min	430 nm	448 nm	270 nm
max	527 nm	549 nm	270 nm
z	2.46 $\mu\text{m}$	2.47 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.817		
Theta	38.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.913$



Parameters:

$A = 222.556$  (brightness)

$B = 114.921$  (background)

$a = 0.578$  px

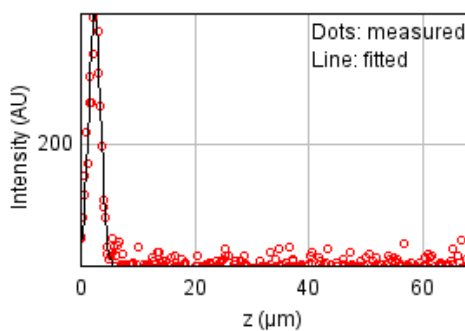
$b = 0.117$  px

$c = 0.630$  px

$xc = 7.399$  px

$yc = 6.531$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 19045.0198

Standard deviation: 7.87629

$R^2: 0.93558$

Parameters:

$a = 110.49490$

$b = 296.94293$

$c = 2.53399$

$d = 1.04407$

## Bead 82

Date : Mon Oct 17 13:50:38 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

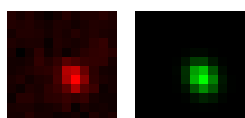
Coordinates : -137  $\mu\text{m}$  (x), -55.1  $\mu\text{m}$  (y), 1.47  $\mu\text{m}$  (z)

Corresponding bead : Not found

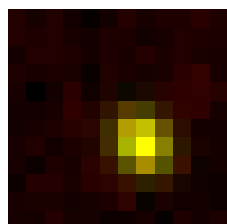
FWHM	Non corrected	Corrected	Theoretical
min	484 nm	504 nm	270 nm
max	589 nm	613 nm	270 nm
z	2.87 $\mu\text{m}$	2.88 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.821		
Theta	-58.6°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.922$



Parameters:

$A = 154.612$  (brightness)

$B = 114.991$  (background)

$a = 0.523$  px

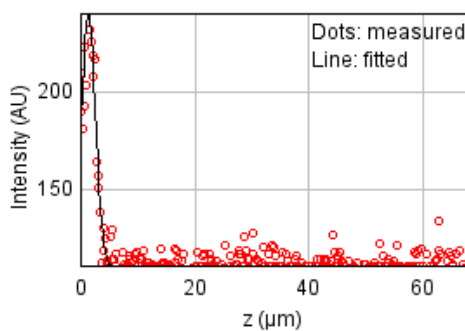
$b = -0.083$  px

$c = 0.437$  px

$x_c = 6.805$  px

$y_c = 6.784$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 15507.5882

Standard deviation: 7.10727

$R^2: 0.90766$

Parameters:

$a = 110.61205$

$b = 240.90883$

$c = 1.46944$

$d = 1.21778$

## Bead 83

Date : Mon Oct 17 13:50:38 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

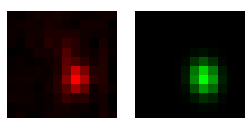
Coordinates : 65.8  $\mu\text{m}$  (x), -69.4  $\mu\text{m}$  (y), 2.87  $\mu\text{m}$  (z)

Corresponding bead : Not found

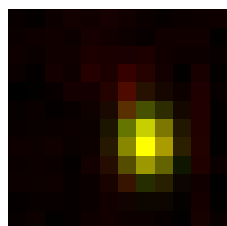
FWHM	Non corrected	Corrected	Theoretical
min	486 nm	506 nm	270 nm
max	613 nm	639 nm	270 nm
z	2.48 $\mu\text{m}$	2.49 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.793		
Theta	-81.0°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.917$



Parameters:

$A = 283.732$  (brightness)

$B = 122.852$  (background)

$a = 0.563$  px

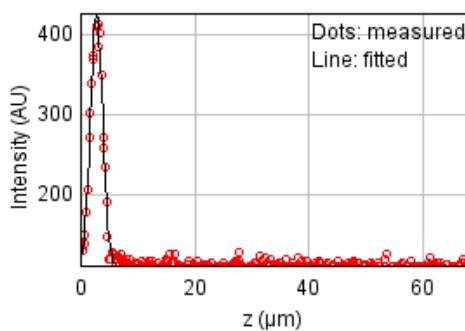
$b = -0.033$  px

$c = 0.362$  px

$x_c = 7.052$  px

$y_c = 6.795$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 17431.0458

Standard deviation: 7.53516

$R^2 = 0.97820$

Parameters:

$a = 112.68190$

$b = 425.11077$

$c = 2.86931$

$d = 1.05219$

## Bead 84 (Rejected)

Date : Mon Oct 17 13:50:38 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 8.53  $\mu\text{m}$  (x), -90.9  $\mu\text{m}$  (y), 2.81  $\mu\text{m}$  (z)

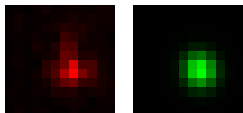
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

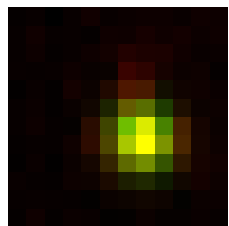
FWHM	Non corrected	Corrected	Theoretical
min	575 nm	599 nm	270 nm
max	635 nm	661 nm	270 nm
z	1.98 $\mu\text{m}$	1.99 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.906		
Theta	-75.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.882$



Parameters:

A = 322.285 (brightness)

B = 121.462 (background)

a = 0.401 px

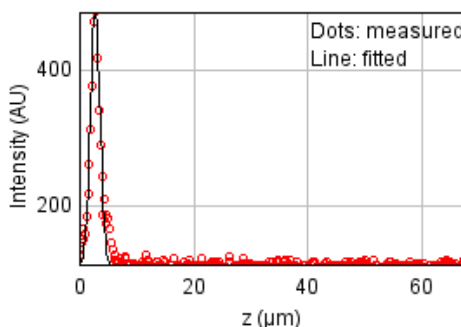
b = -0.018 px

c = 0.338 px

xc = 6.792 px

yc = 6.612 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 35343.1922

Standard deviation: 10.72960

$R^2$ : 0.96155

Parameters:

a = 113.85166

b = 483.41288

c = 2.81326

d = 0.84013

## Bead 85 (Rejected)

Date : Mon Oct 17 13:50:38 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 39.8  $\mu\text{m}$  (x), -95.4  $\mu\text{m}$  (y), 4.7  $\mu\text{m}$  (z)

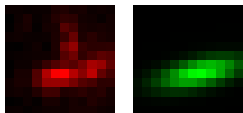
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

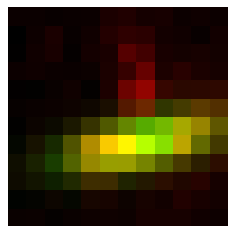
FWHM	Non corrected	Corrected	Theoretical
min	492 nm	512 nm	270 nm
max	1.5 $\mu\text{m}$	1.56 $\mu\text{m}$	270 nm
z	3.74 $\mu\text{m}$	3.76 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.327		
Theta	12.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.759$



Parameters:

A = 181.215 (brightness)

B = 123.498 (background)

a = 0.083 px

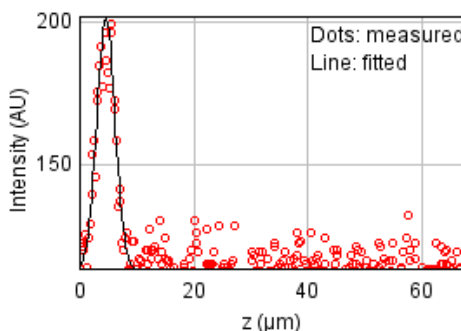
b = 0.105 px

c = 0.532 px

xc = 6.811 px

yc = 6.913 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13996.3572

Standard deviation: 6.75209

$R^2$ : 0.86705

Parameters:

a = 113.79198

b = 201.98568

c = 4.69615

d = 1.58832

## Bead 86 (Rejected)

Date : Mon Oct 17 13:50:38 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 81.5  $\mu\text{m}$  (x), 93.9  $\mu\text{m}$  (y), 4.16  $\mu\text{m}$  (z)

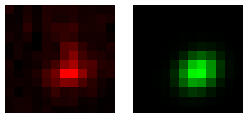
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

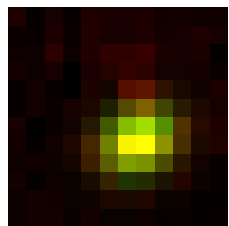
FWHM	Non corrected	Corrected	Theoretical
min	589 nm	614 nm	270 nm
max	718 nm	748 nm	270 nm
z	1.84 $\mu\text{m}$	1.85 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.821		
Theta	33.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.868$



Parameters:

A = 159.201 (brightness)

B = 119.283 (background)

a = 0.299 px

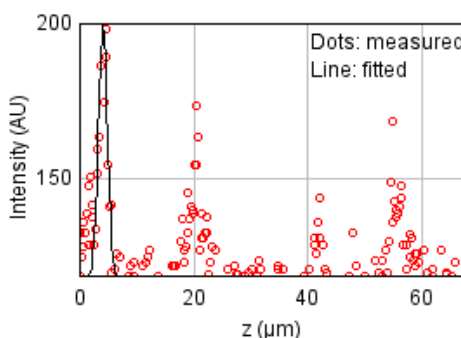
b = 0.058 px

c = 0.348 px

xc = 6.613 px

yc = 6.767 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 42312.7701

Standard deviation: 11.73996

$R^2$ : 0.48874

Parameters:

a = 118.37357

b = 200.19449

c = 4.16364

d = 0.78192

## Bead 87 (Rejected)

Date : Mon Oct 17 13:50:39 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -3.39  $\mu\text{m}$  (x), 83.2  $\mu\text{m}$  (y), 2.86  $\mu\text{m}$  (z)

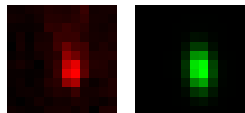
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

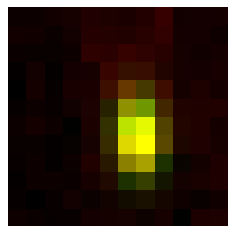
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	748 nm	779 nm	270 nm
z	2.46 $\mu\text{m}$	2.47 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.576		
Theta	-86.3°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.897$



Parameters:

A = 246.948 (brightness)

B = 122.486 (background)

a = 0.720 px

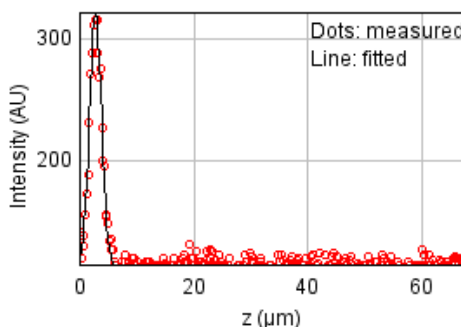
b = -0.031 px

c = 0.242 px

xc = 6.593 px

yc = 6.490 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 13063.9357

Standard deviation: 6.52331

$R^2$ : 0.96333

Parameters:

a = 114.07449

b = 321.89818

c = 2.86230

d = 1.04285

## Bead 88 (Rejected)

Date : Mon Oct 17 13:50:39 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -29.8  $\mu\text{m}$  (x), 68.0  $\mu\text{m}$  (y), 780 nm (z)

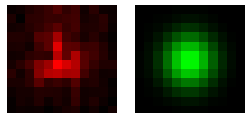
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

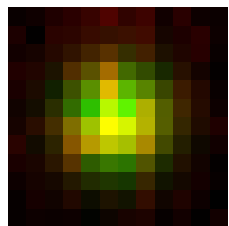
FWHM	Non corrected	Corrected	Theoretical
min	953 nm	992 nm	270 nm
max	1.01 $\mu\text{m}$	1.05 $\mu\text{m}$	270 nm
z	2.09 $\mu\text{m}$	2.1 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.943		
Theta	87.5°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.740$



Parameters:

A = 99.160 (brightness)

B = 116.527 (background)

a = 0.148 px

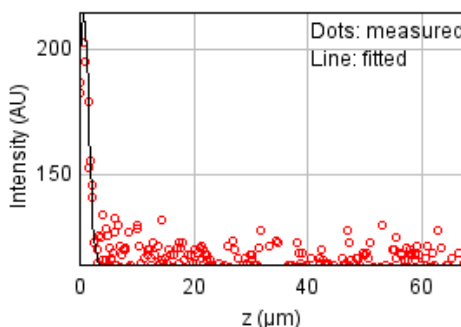
b = 0.001 px

c = 0.131 px

xc = 5.400 px

yc = 5.574 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 14932.0152

Standard deviation: 6.97413

$R^2$ : 0.81388

Parameters:

a = 113.73280

b = 214.99800

c = 0.77999

d = 0.88814



## Bead 89 (Rejected)

Date : Mon Oct 17 13:50:39 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 11.2  $\mu\text{m}$  (x), 56.9  $\mu\text{m}$  (y), 1.53  $\mu\text{m}$  (z)

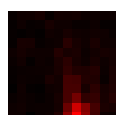
Corresponding bead : Not found

Reason of rejection : R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
z	3.34 $\mu\text{m}$	3.35 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.0		
Theta	0.0°		

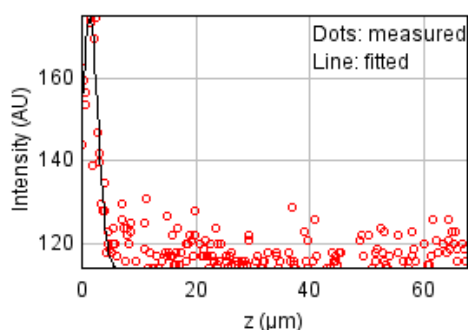
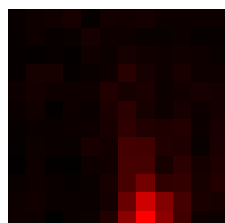
### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a) \cdot \exp(-(x-c)^2/(2 \cdot d^2))$

Sum of residuals squared: 13165.2199

Standard deviation: 6.54855

R<sup>2</sup>: 0.74459

Parameters:

a = 113.93729

b = 175.32657

c = 1.52764

d = 1.41645

## Bead 90

Date : Mon Oct 17 13:50:39 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

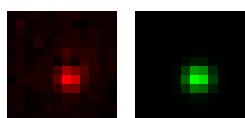
Coordinates : -140  $\mu\text{m}$  (x), 13.6  $\mu\text{m}$  (y), 3.07  $\mu\text{m}$  (z)

Corresponding bead : Not found

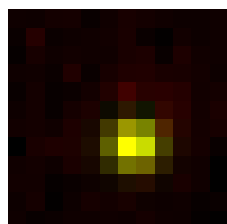
FWHM	Non corrected	Corrected	Theoretical
min	449 nm	468 nm	270 nm
max	490 nm	510 nm	270 nm
z	2.99 $\mu\text{m}$	3.0 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.917		
Theta	-0.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.915$



Parameters:

$A = 232.405$  (brightness)

$B = 117.219$  (background)

$a = 0.559$  px

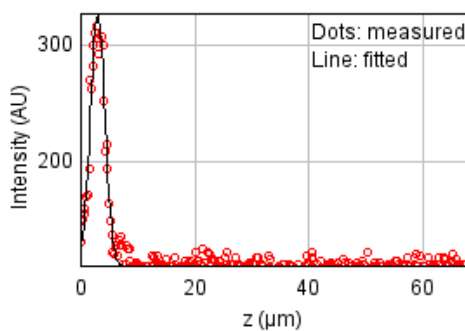
$b = -0.001$  px

$c = 0.664$  px

$xc = 6.369$  px

$yc = 6.894$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 19141.5226

Standard deviation: 7.89622

$R^2: 0.95843$

Parameters:

$a = 111.17848$

$b = 325.98183$

$c = 3.06732$

$d = 1.27079$

## Bead 91 (Rejected)

Date : Mon Oct 17 13:50:39 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : -44.2  $\mu\text{m}$  (x), 1.4  $\mu\text{m}$  (y), 3.78  $\mu\text{m}$  (z)

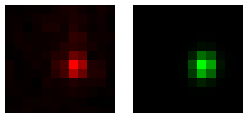
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

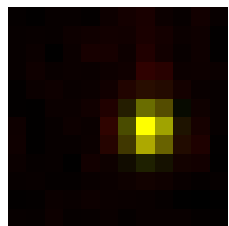
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	463 nm	483 nm	270 nm
z	3.92 $\mu\text{m}$	3.93 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.862		
Theta	77.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.930$



Parameters:

A = 376.415 (brightness)

B = 119.263 (background)

a = 0.831 px

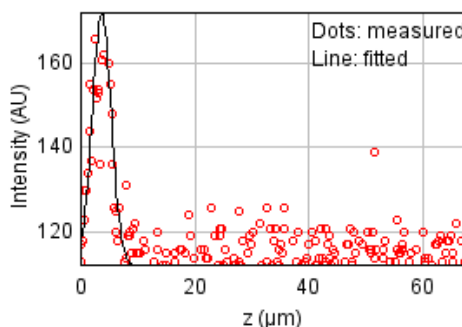
b = 0.046 px

c = 0.635 px

xc = 7.218 px

yc = 6.158 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 15933.0763

Standard deviation: 7.20411

$R^2$ : 0.73437

Parameters:

a = 111.96269

b = 171.92761

c = 3.78278

d = 1.66326

## Bead 92

Date : Mon Oct 17 13:50:39 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

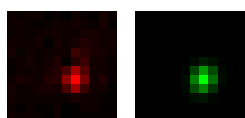
Coordinates : -74.6  $\mu\text{m}$  (x), -7.79  $\mu\text{m}$  (y), 3.26  $\mu\text{m}$  (z)

Corresponding bead : Not found

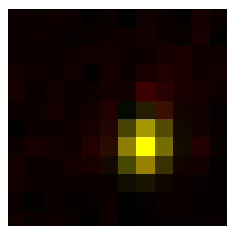
FWHM	Non corrected	Corrected	Theoretical
min	408 nm	424 nm	270 nm
max	485 nm	505 nm	270 nm
z	2.13 $\mu\text{m}$	2.14 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.841		
Theta	72.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.929$



Parameters:

$A = 375.816$  (brightness)

$B = 122.800$  (background)

$a = 0.786$  px

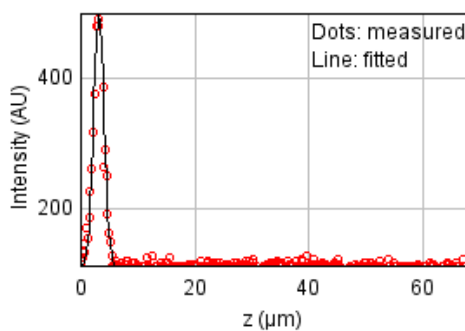
$b = 0.069$  px

$c = 0.594$  px

$x_c = 6.961$  px

$y_c = 6.929$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 29193.3721

Standard deviation: 9.75153

$R^2: 0.97236$

Parameters:

$a = 112.60058$

$b = 497.47546$

$c = 3.26402$

$d = 0.90336$

## Bead 93

Date : Mon Oct 17 13:50:39 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

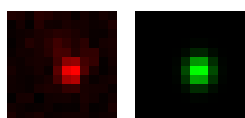
Coordinates : 82.0  $\mu\text{m}$  (x), -17.1  $\mu\text{m}$  (y), 3.21  $\mu\text{m}$  (z)

Corresponding bead : Not found

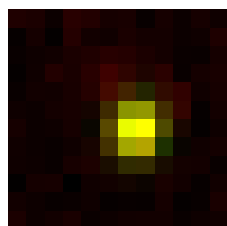
FWHM	Non corrected	Corrected	Theoretical
min	465 nm	484 nm	270 nm
max	533 nm	555 nm	270 nm
z	2.62 $\mu\text{m}$	2.63 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.872		
Theta	86.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.911$



Parameters:

$A = 248.936$  (brightness)

$B = 121.036$  (background)

$a = 0.621$  px

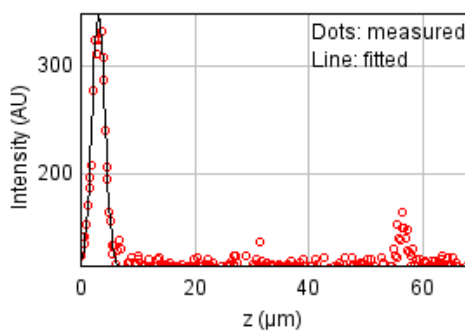
$b = 0.008$  px

$c = 0.473$  px

$x_c = 6.505$  px

$y_c = 6.049$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 33016.5715

Standard deviation: 10.37043

$R^2: 0.93418$

Parameters:

$a = 114.34500$

$b = 350.04282$

$c = 3.20985$

$d = 1.11149$

## Bead 94 (Rejected)

Date : Mon Oct 17 13:50:40 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 26.7  $\mu\text{m}$  (x), -17.4  $\mu\text{m}$  (y), 3.85  $\mu\text{m}$  (z)

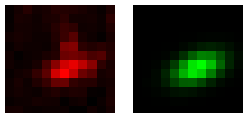
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

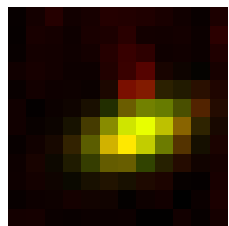
FWHM	Non corrected	Corrected	Theoretical
min	521 nm	543 nm	270 nm
max	948 nm	987 nm	270 nm
z	3.51 $\mu\text{m}$	3.52 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.55		
Theta	20.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.871$



Parameters:

A = 200.759 (brightness)

B = 118.311 (background)

a = 0.193 px

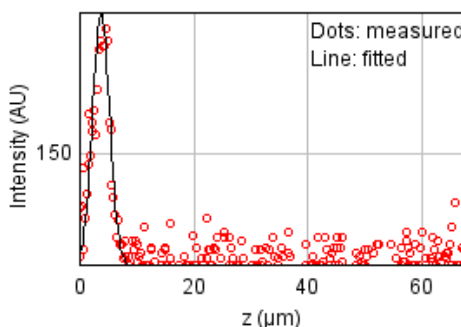
b = 0.114 px

c = 0.451 px

xc = 6.554 px

yc = 6.369 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 16408.7536

Standard deviation: 7.31086

$R^2$ : 0.83169

Parameters:

a = 112.54453

b = 198.09076

c = 3.85464

d = 1.49065

## Bead 95 (Rejected)

Date : Mon Oct 17 13:50:40 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 62.9  $\mu\text{m}$  (x), -19.1  $\mu\text{m}$  (y), 4.41  $\mu\text{m}$  (z)

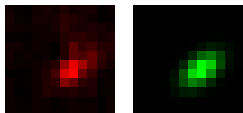
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

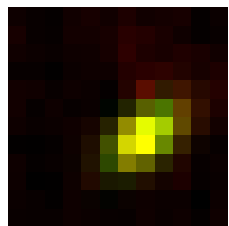
FWHM	Non corrected	Corrected	Theoretical
min	454 nm	473 nm	270 nm
max	767 nm	798 nm	270 nm
z	3.17 $\mu\text{m}$	3.18 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.593		
Theta	39.7°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.900$



Parameters:

A = 319.558 (brightness)

B = 121.508 (background)

a = 0.400 px

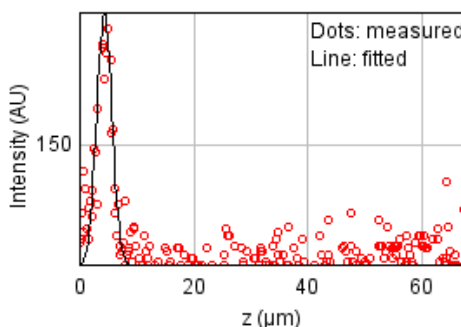
b = 0.207 px

c = 0.478 px

xc = 6.963 px

yc = 6.528 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 18486.5692

Standard deviation: 7.75995

$R^2$ : 0.77234

Parameters:

a = 112.51151

b = 191.42394

c = 4.41378

d = 1.34456

## Bead 96 (Rejected)

Date : Mon Oct 17 13:50:40 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 17.3  $\mu\text{m}$  (x), -29.8  $\mu\text{m}$  (y), 4.67  $\mu\text{m}$  (z)

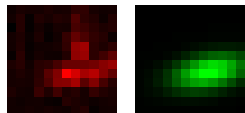
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

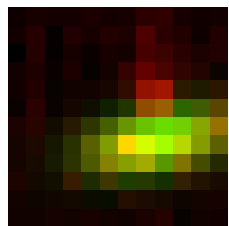
FWHM	Non corrected	Corrected	Theoretical
min	622 nm	648 nm	270 nm
max	1.38 $\mu\text{m}$	1.43 $\mu\text{m}$	270 nm
z	2.24 $\mu\text{m}$	2.24 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.452		
Theta	11.8°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.699$



Parameters:

A = 123.154 (brightness)

B = 120.456 (background)

a = 0.082 px

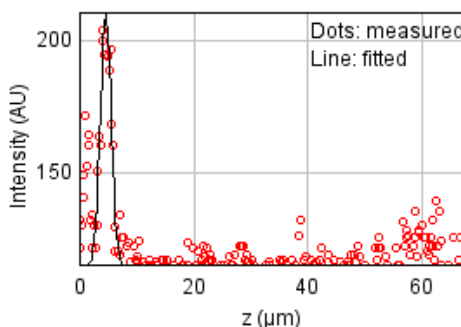
b = 0.055 px

c = 0.335 px

xc = 7.642 px

yc = 6.785 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 29262.7429

Standard deviation: 9.76311

$R^2$ : 0.69140

Parameters:

a = 115.44088

b = 210.41840

c = 4.66650

d = 0.94923



## Bead 97

Date : Mon Oct 17 13:50:40 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

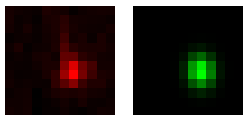
Coordinates : 37.8  $\mu\text{m}$  (x), -30.8  $\mu\text{m}$  (y), 3.12  $\mu\text{m}$  (z)

Corresponding bead : Not found

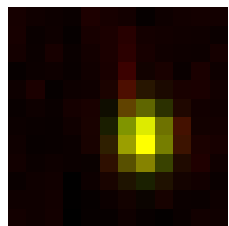
FWHM	Non corrected	Corrected	Theoretical
min	478 nm	498 nm	270 nm
max	599 nm	624 nm	270 nm
z	2.15 $\mu\text{m}$	2.16 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.798		
Theta	-87.1°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.918$



Parameters:

$A = 292.927$  (brightness)

$B = 120.950$  (background)

$a = 0.587$  px

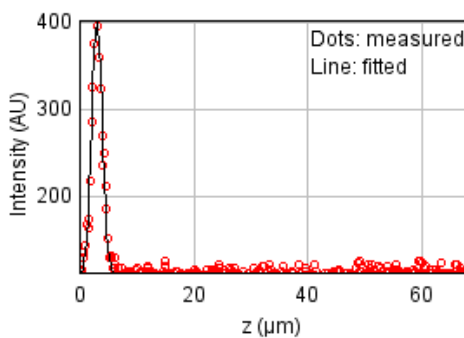
$b = -0.011$  px

$c = 0.375$  px

$x_c = 6.895$  px

$y_c = 6.607$  px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 22686.6260

Standard deviation: 8.59638

$R^2: 0.96268$

Parameters:

$a = 113.23973$

$b = 402.22024$

$c = 3.12354$

$d = 0.91349$

## Bead 98

Date : Mon Oct 17 13:50:40 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

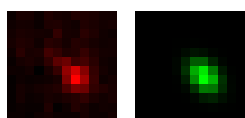
Coordinates : 115 um (x), -44.0 um (y), 3.38 um (z)

Corresponding bead : Not found

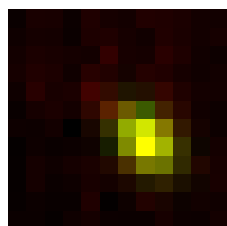
FWHM	Non corrected	Corrected	Theoretical
min	471 nm	491 nm	270 nm
max	671 nm	699 nm	270 nm
z	2.77 um	2.78 um	1.3 um
Asymmetry	0.702		
Theta	-50.2°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.902$



Parameters:

A = 230.148 (brightness)

B = 117.197 (background)

a = 0.479 px

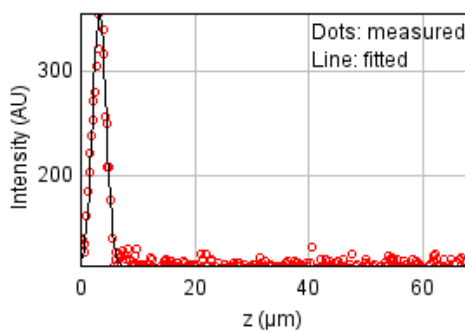
b = -0.151 px

c = 0.424 px

xc = 7.010 px

yc = 6.618 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 20773.6234

Standard deviation: 8.22597

$R^2$ : 0.96264

Parameters:

a = 111.86802

b = 357.07723

c = 3.38202

d = 1.17742

## Bead 99 (Rejected)

Date : Mon Oct 17 13:50:41 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 42.1  $\mu\text{m}$  (x), -45.0  $\mu\text{m}$  (y), 4.03  $\mu\text{m}$  (z)

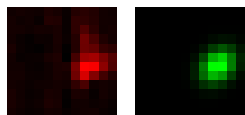
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

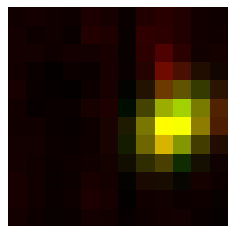
FWHM	Non corrected	Corrected	Theoretical
min	542 nm	565 nm	270 nm
max	705 nm	735 nm	270 nm
z	4.22 $\mu\text{m}$	4.23 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.769		
Theta	46.4°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.882$



Parameters:

A = 261.959 (brightness)

B = 118.839 (background)

a = 0.368 px

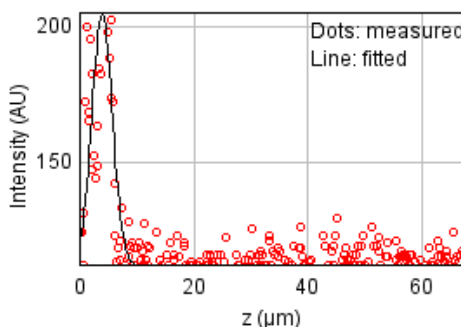
b = 0.093 px

c = 0.358 px

xc = 8.540 px

yc = 5.893 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 32631.5056

Standard deviation: 10.30978

$R^2$ : 0.77398

Parameters:

a = 112.63010

b = 205.01942

c = 4.03310

d = 1.79003

## Bead 100 (Rejected)

Date : Mon Oct 17 13:50:41 PDT 2022

Origin : data\_traditional.tif ( Nikon 40x0.95 air )

Frame size : 12 pixels

Coordinates : 30.6  $\mu\text{m}$  (x), -56.1  $\mu\text{m}$  (y), 52.5  $\mu\text{m}$  (z)

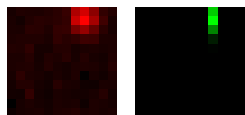
Corresponding bead : Not found

Reason of rejection : The fitted bead is likely to be a different bead from the center bead.

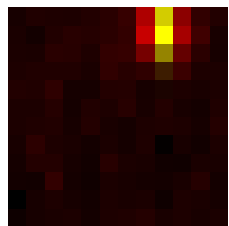
FWHM	Non corrected	Corrected	Theoretical
min	66.8 nm	69.6 nm	270 nm
max	682 nm	711 nm	270 nm
z	2.14 $\mu\text{m}$	2.15 $\mu\text{m}$	1.3 $\mu\text{m}$
Asymmetry	0.098		
Theta	-85.9°		

### XY profile & fitting parameters :

(red : the original data, green : the fit, yellow : the two merged)



Fitted on  $i(x,y) = A * \exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$   
 $R^2 = 0.477$



Parameters:

A = 250.817 (brightness)

B = 122.367 (background)

a = 29.875 px

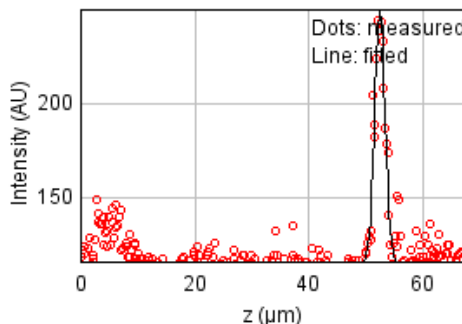
b = -2.134 px

c = 0.442 px

xc = 7.937 px

yc = 0.448 px

### Z profile & fitting parameters:



Fitted on  $y = a + (b-a)*\exp(-(x-c)^2/(2*d^2))$

Sum of residuals squared: 30189.8964

Standard deviation: 9.91657

$R^2$ : 0.80470

Parameters:

a = 116.03821

b = 249.56637

c = 52.51334

d = 0.90919