Date: Mon Oct 17 13:28:39 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

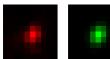
Coordinates: -99.4 um (x), -44.9 um (y), 19.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	420 nm	434 nm	223 nm
max	557 nm	576 nm	223 nm
Z	1.38 um	1.39 um	885 nm
Asymmetry	0.755		
Theta	63.1°		

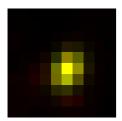
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.973$$



Parameters:

A = 956.967 (brightness)

B = 128.920(background)

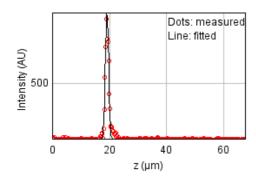
a = 0.693 px

b = 0.132 px

c = 0.500 px

xc = 5.045 pxyc = 5.152 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 82058.0284

Standard deviation: 16.34901

R^2: 0.97772 Parameters: a = 113.11923b = 998.67274

c = 19.18387

Date: Mon Oct 17 13:28:39 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

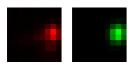
Coordinates: -37.4 um (x), -57.7 um (y), 24.8 um (z)

Corresponding bead: Not found

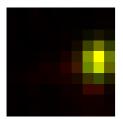
FWHM	Non corrected	Corrected	Theoretical
min	453 nm	468 nm	223 nm
max	535 nm	554 nm	223 nm
Z	1.32 um	1.33 um	885 nm
Asymmetry	0.846		
Theta	80.6°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.942$ 



Parameters:

A = 1238.833 (brightness)

B = 142.862 (background)

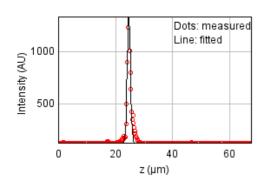
a = 0.649 px

b = 0.030 px

c = 0.473 px

xc = 7.900 pxyc = 4.344 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 248654.228

Standard deviation: 28.45960

R^2: 0.96464 Parameters: a = 118.05889 b = 1360.37902 c = 24.75373

Date: Mon Oct 17 13:28:39 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 38.1 um (x), -62.5 um (y), 19.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	397 nm	411 nm	223 nm
max	626 nm	647 nm	223 nm
Z	1.17 um	1.17 um	885 nm
Asymmetry	0.635		
Theta	-71.3°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.964$$



Parameters:

A = 1031.041 (brightness)

B = 132.861 (background)

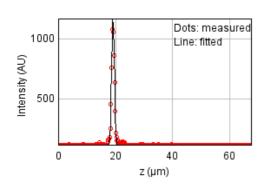
a = 0.798 px

b = -0.154 px

c = 0.395 px

xc = 6.135 pxyc = 4.264 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36788.4105

Standard deviation: 10.94678

R^2: 0.99156 Parameters: a = 114.54972 b = 1168.59942

c = 19.19016

# Bead 904 (Rejected)

Date: Mon Oct 17 13:28:40 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 40.7 um (x), -80.5 um (y), 43.4 um (z)

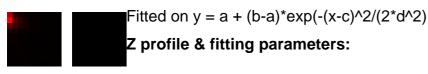
Corresponding bead: Not found

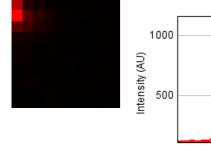
Reason of rejection: R or C parameter off limits.

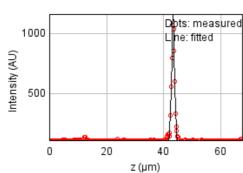
FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.21 um	1.21 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

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







Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 29439.3396

Standard deviation: 9.79253

R^2: 0.99331 Parameters: a = 115.26835 b = 1158.34792 c = 43.35449

Date: Mon Oct 17 13:28:40 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -117 um (x), 60.6 um (y), 19.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	407 nm	421 nm	223 nm
max	517 nm	535 nm	223 nm
Z	2.3 um	2.31 um	885 nm
Asymmetry	0.787		
Theta	-50.4°		

### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.927$$



Parameters:

A = 614.685 (brightness)

B = 129.234 (background)

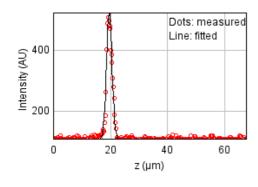
a = 0.685 px

b = -0.152 px

c = 0.627 px

xc = 5.415 pxyc = 5.534 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 48384.0886

Standard deviation: 12.55400

R^2: 0.96324 Parameters: a = 110.52094b = 522.53071

c = 19.65787

Date: Mon Oct 17 13:28:40 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 61.2 um (x), 52.6 um (y), 20.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	435 nm	450 nm	223 nm
max	538 nm	557 nm	223 nm
Z	1.39 um	1.4 um	885 nm
Asymmetry	0.808		
Theta	-29.4°		

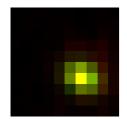
### XY profile & fitting parameters :

(red : the orignal 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 = 745.222 (brightness)

B = 133.753 (background)

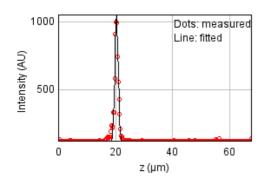
a = 0.522 px

b = -0.106 px

c = 0.650 px

xc = 6.134 pxyc = 5.898 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 86917.2205

Standard deviation: 16.82611

R^2: 0.97910 Parameters: a = 114.84528 b = 1054.15298 c = 20.44692

Date: Mon Oct 17 13:28:40 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

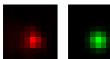
Coordinates: -91.5 um (x), 49.2 um (y), 20.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	502 nm	519 nm	223 nm
max	523 nm	541 nm	223 nm
Z	1.71 um	1.71 um	885 nm
Asymmetry	0.96		
Theta	-25.0°		

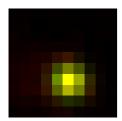
### XY profile & fitting parameters :

(red: the orignal 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 = 727.384 (brightness)

B = 135.060 (background)

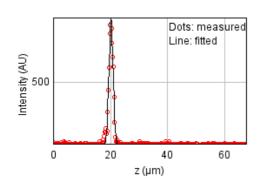
a = 0.498 px

b = -0.016 px

c = 0.524 px

xc = 5.089 pxyc = 6.169 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 51697.3129

Standard deviation: 12.97672

R^2: 0.98533 Parameters: a = 113.48653b = 899.49548c = 20.28097

Date: Mon Oct 17 13:28:40 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

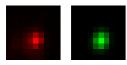
Coordinates: -76.3 um (x), 26.0 um (y), 20.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	439 nm	454 nm	223 nm
max	523 nm	540 nm	223 nm
Z	2.27 um	2.28 um	885 nm
Asymmetry	0.839		
Theta	69.7°		

### XY profile & fitting parameters :

(red: the orignal 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 = 656.931 (brightness)

B = 132.512 (background)

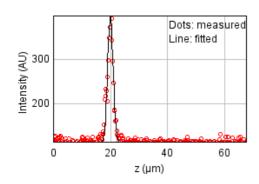
a = 0.672 px

b = 0.067 px

c = 0.516 px

xc = 4.978 pxyc = 5.942 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 38057.5208

Standard deviation: 11.13400

R^2: 0.94013 Parameters:

a = 113.39712

b = 397.95543

c = 20.04323

Date: Mon Oct 17 13:28:40 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

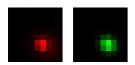
Coordinates: 61.1 um (x), 23.7 um (y), 20.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	416 nm	430 nm	223 nm
max	483 nm	500 nm	223 nm
Z	1.51 um	1.52 um	885 nm
Asymmetry	0.86		
Theta	-36.0°		

### XY profile & fitting parameters :

(red: the orignal 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 = 1481.017 (brightness)

B = 135.319 (background)

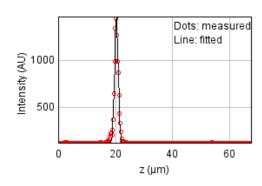
a = 0.644 px

b = -0.096 px

c = 0.706 px

xc = 5.902 pxyc = 6.344 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 112848.882

Standard deviation: 19.17253

R^2: 0.98792 Parameters: a = 115.05917 b = 1473.07991 c = 20.40597

Date: Mon Oct 17 13:28:40 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

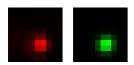
Coordinates: -104 um (x), 20.8 um (y), 20.0 um (z)

Corresponding bead: Not found

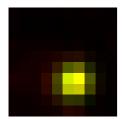
FWHM	Non corrected	Corrected	Theoretical
min	470 nm	485 nm	223 nm
max	495 nm	512 nm	223 nm
Z	1.97 um	1.97 um	885 nm
Asymmetry	0.949		
Theta	36.7°		

### XY profile & fitting parameters :

(red: the orignal 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 = 675.444 (brightness)

B = 127.876 (background)

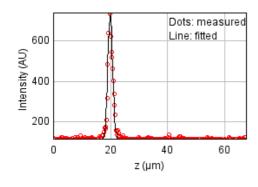
a = 0.570 px

b = 0.029 px

c = 0.587 px

xc = 5.550 pxyc = 6.308 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 88961.5348

Standard deviation: 17.02284

R^2: 0.96597 Parameters: a = 113.04774 b = 739.50359

c = 19.99127

Date: Mon Oct 17 13:28:41 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

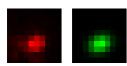
Coordinates: -96.0 um (x), 15.0 um (y), 20.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	498 nm	514 nm	223 nm
max	664 nm	686 nm	223 nm
Z	2.18 um	2.18 um	885 nm
Asymmetry	0.75		
Theta	21.5°		

## XY profile & fitting parameters :

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



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



A = 436.125 (brightness)

B = 119.008 (background)

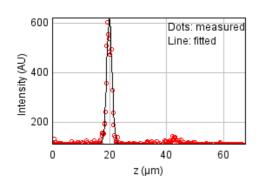
a = 0.336 px

b = 0.081 px

c = 0.510 px

xc = 4.629 pxyc = 6.030 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 143564.025

Standard deviation: 21.62488

R^2: 0.92661 Parameters: a = 113.97809 b = 619.77209

c = 20.03689

# Bead 912 (Rejected)

Date: Mon Oct 17 13:28:41 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -81.2 um (x), -11.3 um (y), 20.2 um (z)

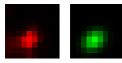
Corresponding bead: Not found

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

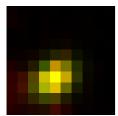
FWHM	Non corrected	Corrected	Theoretical
min	516 nm	534 nm	223 nm
max	683 nm	706 nm	223 nm
Z	4.67 um	4.68 um	885 nm
Asymmetry	0.757		
Theta	36.6°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.925$ 



Parameters:

A = 612.668 (brightness) B = 125.309 (background)

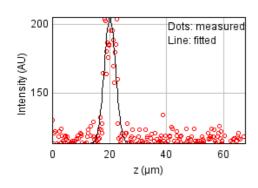
a = 0.364 px

b = 0.103 px

c = 0.427 px

xc = 3.850 pxyc = 6.202 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29038.3228

Standard deviation: 9.72560

R^2: 0.80839 Parameters:

a = 112.73133

b = 205.26795

c = 20.22913

d = 1.98110

Date: Mon Oct 17 13:28:41 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

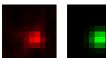
Coordinates: -105 um (x), -68.6 um (y), 19.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	508 nm	525 nm	223 nm
max	576 nm	596 nm	223 nm
Z	1.95 um	1.96 um	885 nm
Asymmetry	0.881		
Theta	14.1°		

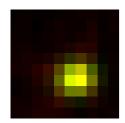
### XY profile & fitting parameters :

(red : the orignal 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 = 509.705 (brightness)

B = 127.599 (background)

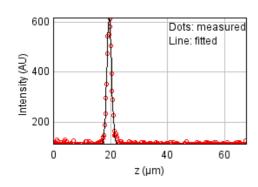
a = 0.411 px

b = 0.028 px

c = 0.514 px

xc = 5.557 pxyc = 5.802 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23462.4925

Standard deviation: 8.74214

R^2: 0.98588 Parameters: a = 112.10454b = 618.04787

c = 19.63569

Date: Mon Oct 17 13:28:41 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -151 um (x), 84.9 um (y), 19.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	347 nm	359 nm	223 nm
max	682 nm	705 nm	223 nm
Z	2.0 um	2.0 um	885 nm
Asymmetry	0.509		
Theta	-26.9°		

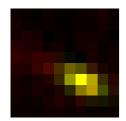
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.903$$



Parameters:

A = 331.161 (brightness)

B = 125.933 (background)

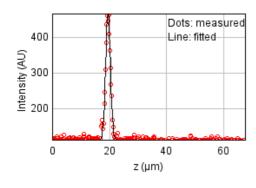
a = 0.458 px

b = -0.334 px

c = 0.945 px

xc = 6.158 pxyc = 6.163 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16774.9708

Standard deviation: 7.39200

R^2: 0.97993 Parameters: a = 110.94302 b = 465.18094

c = 19.57832

Date: Mon Oct 17 13:28:41 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

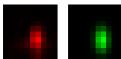
Coordinates: -25.6 um (x), 69.5 um (y), 20.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	422 nm	437 nm	223 nm
max	722 nm	747 nm	223 nm
Z	1.28 um	1.28 um	885 nm
Asymmetry	0.585		
Theta	-89.3°		

### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.969$$



Parameters:

A = 924.829 (brightness)

B = 125.016 (background)

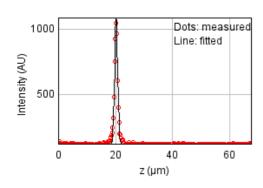
a = 0.753 px

b = -0.006 px

c = 0.257 px

xc = 5.706 pxyc = 6.040 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 51996.4130

Standard deviation: 13.01420

R^2: 0.98750 Parameters: a = 114.81252b = 1098.06370c = 20.31867

Date: Mon Oct 17 13:28:41 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

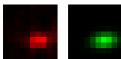
Coordinates: 112 um (x), 49.7 um (y), 19.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	426 nm	440 nm	223 nm
max	754 nm	779 nm	223 nm
Z	1.8 um	1.8 um	885 nm
Asymmetry	0.564		
Theta	6.0°		

## XY profile & fitting parameters :

(red: the orignal 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 = 386.235 (brightness)

B = 117.064 (background)

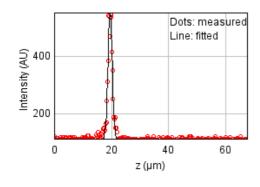
a = 0.242 px

b = 0.053 px

c = 0.735 px

xc = 6.203 pxyc = 6.143 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 35472.6064

Standard deviation: 10.74923

R^2: 0.96988 Parameters: a = 112.07008b = 552.02477

c = 19.61585

Date: Mon Oct 17 13:28:41 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

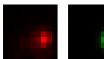
Coordinates: -76.3 um (x), 26.0 um (y), 20.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	434 nm	449 nm	223 nm
max	517 nm	534 nm	223 nm
Z	2.27 um	2.28 um	885 nm
Asymmetry	0.84		
Theta	69.6°		

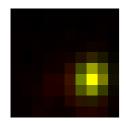
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.936$$



Parameters:

A = 658.291(brightness)

B = 135.468 (background)

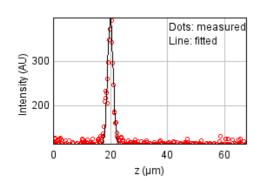
a = 0.687 px

b = 0.069 px

c = 0.528 px

xc = 6.981 pxyc = 5.941 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 38057.5208

Standard deviation: 11.13400

R^2: 0.94013 Parameters:

a = 113.39712

b = 397.95543

c = 20.04323

# Bead 918 (Rejected)

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -81.2 um (x), -11.3 um (y), 20.2 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	507 nm	524 nm	223 nm
max	668 nm	691 nm	223 nm
Z	4.67 um	4.68 um	885 nm
Asymmetry	0.758		
Theta	36.9°		

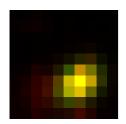
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.925$$



Parameters:

A = 613.923 (brightness) B = 130.800 (background)

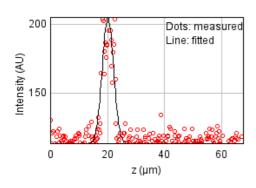
a = 0.380 px

b = 0.107 px

c = 0.442 px

xc = 5.857 pxyc = 6.199 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 29038.3228

Standard deviation: 9.72560

R^2: 0.80839 Parameters:

a = 112.73133

b = 205.26795

c = 20.22913

d = 1.98110

# Bead 919 (Rejected)

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -65.5 um (x), -24.1 um (y), 16.6 um (z)

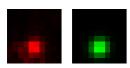
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	521 nm	539 nm	223 nm
max	544 nm	563 nm	223 nm
Z	4.07 um	4.09 um	885 nm
Asymmetry	0.958		
Theta	36.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 474.181 (brightness)

B = 125.131 (background)

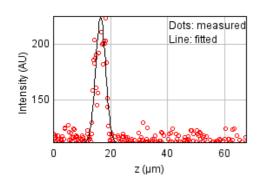
a = 0.468 px

b = 0.020 px

c = 0.479 px

xc = 4.481 pxyc = 6.620 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 30683.8855

Standard deviation: 9.99738

R^2: 0.83913 Parameters:

a = 112.14296

b = 224.54375

c = 16.63057

d = 1.72876

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 25.6 um (x), -28.7 um (y), 20.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	406 nm	420 nm	223 nm
max	641 nm	663 nm	223 nm
Z	1.6 um	1.61 um	885 nm
Asymmetry	0.633		
Theta	-59.6°		

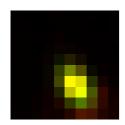
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.946$$



Parameters:

A = 1071.690 (brightness)

B = 126.883 (background)

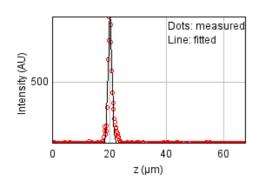
a = 0.689 px

b = -0.212 px

c = 0.451 px

xc = 5.551 pxyc = 6.451 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 112572.837

Standard deviation: 19.14907

R^2: 0.96774 Parameters: a = 115.21503 b = 913.83285 c = 20.27633

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

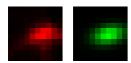
Coordinates: 26.8 um (x), -94.8 um (y), 19.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	547 nm	565 nm	223 nm
max	979 nm	1.01 um	223 nm
Z	2.36 um	2.37 um	885 nm
Asymmetry	0.558		
Theta	12.1°		

## XY profile & fitting parameters :

(red : the orignal 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 = 501.199 (brightness)

B = 125.216 (background)

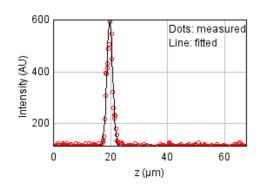
a = 0.154 px

b = 0.063 px

c = 0.436 px

xc = 6.041 pxyc = 4.695 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 70579.4038

Standard deviation: 15.16246

R^2: 0.96262 Parameters:

a = 113.64305

b = 601.08071

c = 19.83148

d = 1.00202

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

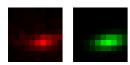
Coordinates: 141 um (x), 72.6 um (y), 19.8 um (z)

Corresponding bead: Not found

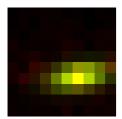
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	412 nm	223 nm
max	907 nm	938 nm	223 nm
Z	2.08 um	2.09 um	885 nm
Asymmetry	0.44		
Theta	9.0°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.946$ 



Parameters:

A = 245.273 (brightness)

B = 118.071 (background)

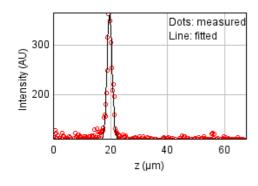
a = 0.180 px

b = 0.105 px

c = 0.827 px

xc = 6.089 pxyc = 5.809 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20286.3326

Standard deviation: 8.12892

R^2: 0.95608 Parameters: a = 110.50665 b = 365.37954

c = 19.76984

# Bead 923 (Rejected)

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -68.0 um (x), 59.6 um (y), 18.5 um (z)

Corresponding bead: Not found

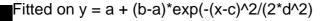
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.93 um	1.94 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

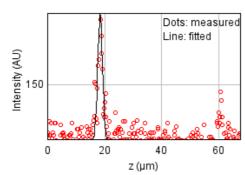
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 19999.0328

Standard deviation: 8.07115

R^2: 0.68901 Parameters: a = 113.88346 b = 197.61386 c = 18.52368

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -121 um (x), 45.7 um (y), 20.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	510 nm	527 nm	223 nm
max	556 nm	575 nm	223 nm
Z	1.77 um	1.78 um	885 nm
Asymmetry	0.916		
Theta	-1.2°		

### XY profile & fitting parameters :

(red: the orignal 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 = 533.415 (brightness)

B = 121.576 (background)

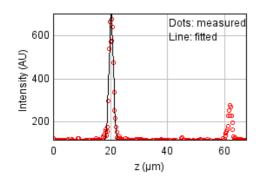
a = 0.434 px

b = -0.002 px

c = 0.517 px

xc = 5.181 pxyc = 6.120 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 260512.270

Standard deviation: 29.13030

R^2: 0.88499 Parameters: a = 117.65431 b = 704.00751 c = 20.33167

Date: Mon Oct 17 13:28:42 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -78.9 um (x), 3.99 um (y), 20.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	419 nm	433 nm	223 nm
max	510 nm	527 nm	223 nm
Z	1.58 um	1.59 um	885 nm
Asymmetry	0.822		
Theta	43.3°		

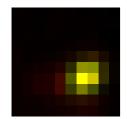
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.935$$



Parameters:

A = 997.930 (brightness)

B = 138.389 (background)

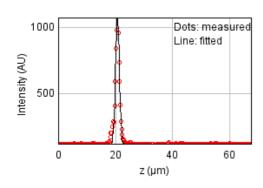
a = 0.633 px

b = 0.124 px

c = 0.648 px

xc = 6.323 pxyc = 5.878 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 66997.2304

Standard deviation: 14.77268

R^2: 0.98649 Parameters: a = 114.65088 b = 1082.09298

c = 20.76681

# Bead 926 (Rejected)

Date: Mon Oct 17 13:28:43 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 15.4 um (x), -11.0 um (y), 40.0 um (z)

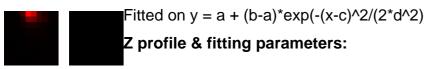
Corresponding bead: Not found

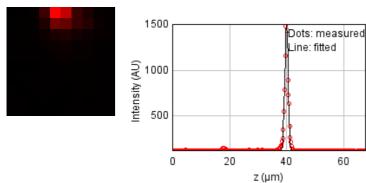
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.34 um	1.35 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

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





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 132283.883

Standard deviation: 20.75794

R^2: 0.98489 Parameters: a = 114.92959 b = 1504.95726 c = 40.01209

Date: Mon Oct 17 13:28:43 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

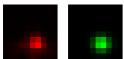
Coordinates: -37.5 um (x), -22.2 um (y), 20.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	454 nm	469 nm	223 nm
max	497 nm	514 nm	223 nm
Z	1.77 um	1.78 um	885 nm
Asymmetry	0.913		
Theta	-5.5°		

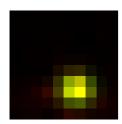
### XY profile & fitting parameters :

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





Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$  $R^2 = 0.953$ 



Parameters:

A = 1154.447 (brightness)

B = 132.872 (background)

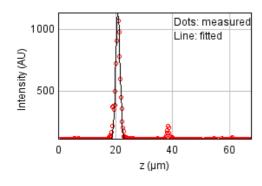
a = 0.544 px

b = -0.010 px

c = 0.650 px

xc = 5.650 pxyc = 6.730 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 171942.779

Standard deviation: 23.66589

R^2: 0.97222 Parameters: a = 116.89347

b = 1134.06752

c = 20.91731

Date: Mon Oct 17 13:28:43 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 25.6 um (x), -28.7 um (y), 20.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	415 nm	223 nm
max	636 nm	658 nm	223 nm
Z	1.6 um	1.61 um	885 nm
Asymmetry	0.631		
Theta	-59.9°		

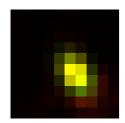
### XY profile & fitting parameters :

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





Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.942$ 



Parameters:

 $A = 1070.323 \quad (brightness)$ 

B = 132.872 (background)

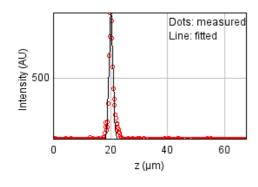
a = 0.706 px

b = -0.217 px

c = 0.457 px

xc = 5.550 pxyc = 5.452 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 112572.837

Standard deviation: 19.14907

R^2: 0.96774 Parameters: a = 115.21503 b = 913.83285

c = 20.27633

Date: Mon Oct 17 13:28:43 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 139 um (x), -51.6 um (y), 19.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	414 nm	428 nm	223 nm
max	1.59 um	1.64 um	223 nm
Z	2.45 um	2.46 um	885 nm
Asymmetry	0.261		
Theta	-37.4°		

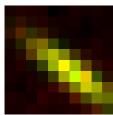
## XY profile & fitting parameters :

(red: the orignal 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 = 153.268 (brightness)

B = 116.567 (background)

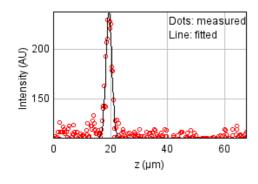
a = 0.322 px

b = -0.352 px

c = 0.514 px

xc = 5.717 pxyc = 5.626 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 14565.3261

Standard deviation: 6.88796

R^2: 0.89796 Parameters: a = 111.01908

b = 238.21469

c = 19.52352

d = 1.03994

Date: Mon Oct 17 13:28:43 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

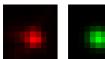
Coordinates: -96.6 um (x), -67.7 um (y), 20.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	539 nm	557 nm	223 nm
max	631 nm	653 nm	223 nm
Z	1.62 um	1.62 um	885 nm
Asymmetry	0.854		
Theta	-15.8°		

### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.960$$



Parameters:

A = 534.940 (brightness)

B = 124.263 (background)

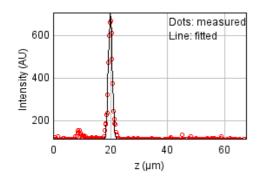
a = 0.346 px

b = -0.033 px

c = 0.452 px

xc = 5.094 pxyc = 5.784 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39569.4064

Standard deviation: 11.35300

R^2: 0.97910 Parameters:

a = 114.24881

b = 703.99114

c = 20.03040

Date: Mon Oct 17 13:28:43 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

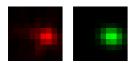
Coordinates: -91.6 um (x), -79.2 um (y), 20.4 um (z)

Corresponding bead: Not found

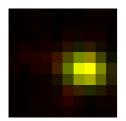
FWHM	Non corrected	Corrected	Theoretical
min	505 nm	522 nm	223 nm
max	643 nm	665 nm	223 nm
Z	1.44 um	1.44 um	885 nm
Asymmetry	0.785		
Theta	-10.8°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.948$$



Parameters:

A = 618.627 (brightness)

B = 131.521 (background)

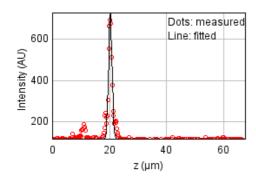
a = 0.332 px

b = -0.037 px

c = 0.519 px

xc = 6.583 pxyc = 5.084 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 109814.580

Standard deviation: 18.91302

R^2: 0.94299 Parameters: a = 117.54157 b = 735.21488

c = 20.36487d = 0.61046

# Bead 932 (Rejected)

Date: Mon Oct 17 13:28:44 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -8.22 um (x), 83.0 um (y), 19.2 um (z)

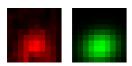
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	921 nm	952 nm	223 nm
max	1.09 um	1.13 um	223 nm
Z	1.29 um	1.3 um	885 nm
Asymmetry	0.843		
Theta	19.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 154.573 (brightness) B = 115.014 (background)

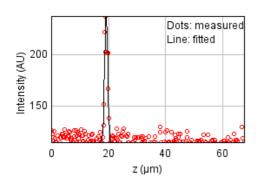
a = 0.118 px

b = 0.014 px

c = 0.153 px

xc = 4.625 pxyc = 6.704 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13949.4724

Standard deviation: 6.74077

R^2: 0.82801 Parameters:

a = 114.72205

b = 239.67003

c = 19.24498

Date: Mon Oct 17 13:28:44 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

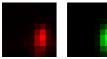
Coordinates: -8.2 um (x), 82.2 um (y), 20.6 um (z)

Corresponding bead : Not found

FWHM	Non corrected	Corrected	Theoretical
min	385 nm	398 nm	223 nm
max	756 nm	782 nm	223 nm
Z	1.35 um	1.35 um	885 nm
Asymmetry	0.509		
Theta	85.1°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.975$$



Parameters:

A = 936.935 (brightness)

B = 121.073 (background)

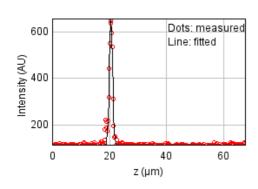
a = 0.902 px

b = 0.057 px

c = 0.240 px

xc = 6.746 pxyc = 6.229 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 49170.3580

Standard deviation: 12.65559

R^2: 0.96453 Parameters:

a = 114.21588

b = 661.48052

c = 20.59356

# Bead 934 (Rejected)

Date: Mon Oct 17 13:28:44 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -98.6 um (x), 80.3 um (y), 20.5 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	525 nm	542 nm	223 nm
max	715 nm	739 nm	223 nm
Z	1.75 um	1.75 um	885 nm
Asymmetry	0.734		
Theta	-30.9°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.862$$



Parameters:

A = 273.255 (brightness) B = 123.996 (background)

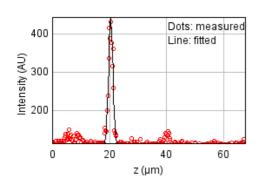
a = 0.322 px

b = -0.099 px

c = 0.428 px

xc = 5.926 pxyc = 5.892 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 40244.4220

Standard deviation: 11.44942

R^2: 0.93922 Parameters:

a = 114.28698

b = 443.33649

c = 20.52490

Date: Mon Oct 17 13:28:44 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 51.2 um (x), 51.7 um (y), 21.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	506 nm	523 nm	223 nm
max	586 nm	605 nm	223 nm
Z	1.34 um	1.35 um	885 nm
Asymmetry	0.864		
Theta	76.5°		

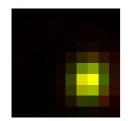
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.948$$



Parameters:

A = 777.893 (brightness)

B = 123.675 (background)

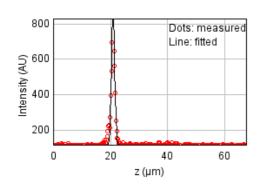
a = 0.517 px

b = 0.030 px

c = 0.398 px

xc = 6.639 pxyc = 6.105 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 60951.0910

Standard deviation: 14.09034

R^2: 0.97454 Parameters: a = 114.91656 b = 839.02790

c = 20.99792

# Bead 936 (Rejected)

Date: Mon Oct 17 13:28:44 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -65.5 um (x), 37.4 um (y), 19.2 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	548 nm	566 nm	223 nm
max	1.3 um	1.34 um	223 nm
Z	1.46 um	1.47 um	885 nm
Asymmetry	0.421		
Theta	-66.1°		

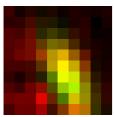
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.604$$



xc = 5.425 pxyc = 6.096 px

#### Parameters:

A = 120.560 (brightness)

B = 134.140 (background)

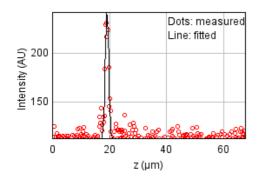
a = 0.387 px

b = -0.136 px

D = -0.130 px

c = 0.140 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15471.4020

Standard deviation: 7.09898

R^2: 0.83830 Parameters:

a = 112.82422

b = 241.49995

c = 19.18532

Date: Mon Oct 17 13:28:44 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

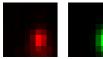
Coordinates: -4.57 um (x), 26.7 um (y), 20.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	457 nm	472 nm	223 nm
max	723 nm	747 nm	223 nm
Z	1.32 um	1.32 um	885 nm
Asymmetry	0.631		
Theta	-89.6°		

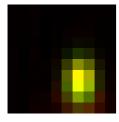
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.950$$



$$xc = 6.223 px$$
  
 $yc = 6.582 px$ 

xc = 6.223 px

### Parameters:

A = 1044.530 (brightness)

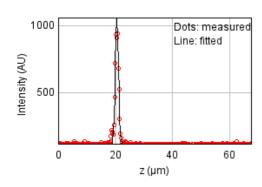
B = 128.994 (background)

a = 0.644 px

b = -0.003 px

c = 0.257 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 79624.8512

Standard deviation: 16.10479

R^2: 0.98066 Parameters:

a = 115.33126

b = 1076.02894

c = 20.56454

Date: Mon Oct 17 13:28:44 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

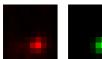
Coordinates: -79.9 um (x), 26.0 um (y), 21.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	393 nm	406 nm	223 nm
max	472 nm	488 nm	223 nm
Z	1.77 um	1.78 um	885 nm
Asymmetry	0.832		
Theta	31.8°		

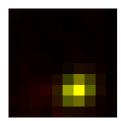
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.953$$



Parameters:

A = 552.375 (brightness)

B = 124.570 (background)

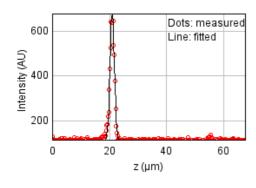
a = 0.676 px

b = 0.120 px

c = 0.795 px

xc = 5.823 pxyc = 6.993 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23874.3778

Standard deviation: 8.81854

R^2: 0.98740 Parameters: a = 113.41088b = 680.27551

c = 21.03192

Date: Mon Oct 17 13:28:45 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 57.5 um (x), -24.7 um (y), 20.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	400 nm	414 nm	223 nm
max	560 nm	579 nm	223 nm
Z	1.38 um	1.38 um	885 nm
Asymmetry	0.715		
Theta	-62.5°		

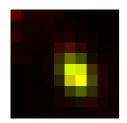
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.924$$



Parameters:

A = 1113.554 (brightness)

B = 163.897 (background)

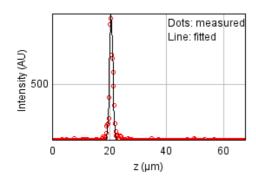
a = 0.750 px

b = -0.168 px

c = 0.515 px

xc = 5.548 pxyc = 5.460 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 251144.753

Standard deviation: 28.60177

R^2: 0.93317 Parameters: a = 114.76731 b = 991.30639 c = 20.66423

Date: Mon Oct 17 13:28:45 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -162 um (x), -26.2 um (y), 19.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	347 nm	358 nm	223 nm
max	1.01 um	1.04 um	223 nm
Z	1.81 um	1.82 um	885 nm
Asymmetry	0.345		
Theta	23.7°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.953$$



Parameters:

A = 319.620 (brightness)

B = 115.070 (background)

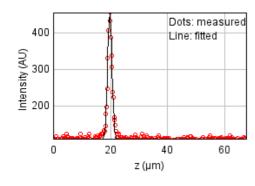
a = 0.291 px

b = 0.362 px

c = 0.958 px

xc = 5.846 pxyc = 5.912 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17543.6244

Standard deviation: 7.55945

R^2: 0.97587 Parameters:

a = 110.57332

b = 455.87674

c = 19.84877

Date: Mon Oct 17 13:28:45 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -125 um (x), -42.8 um (y), 20.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	474 nm	490 nm	223 nm
max	533 nm	551 nm	223 nm
Z	1.57 um	1.57 um	885 nm
Asymmetry	0.889		
Theta	39.8°		

### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.976$$



Parameters:

A = 651.554 (brightness)

B = 121.453 (background)

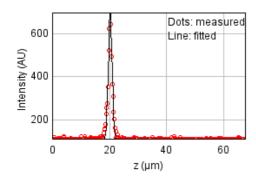
a = 0.524 px

b = 0.062 px

c = 0.547 px

xc = 5.062 pxyc = 6.645 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36301.8630

Standard deviation: 10.87415

R^2: 0.98032 Parameters: a = 111.99452 b = 703.06614

c = 20.34744

# Bead 942 (Rejected)

Date: Mon Oct 17 13:28:45 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 60.1 um (x), -74.6 um (y), 63.2 um (z)

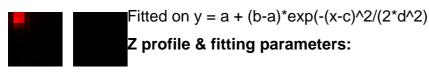
Corresponding bead: Not found

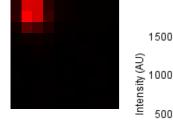
Reason of rejection: R or C parameter off limits.

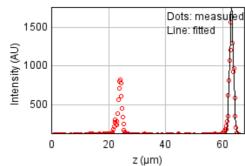
FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.56 um	1.57 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

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







Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 2885746.35

Standard deviation: 96.95270

R^2: 0.82366 Parameters: a = 135.64850 b = 1752.15447 c = 63.15310

# Bead 943 (Rejected)

Date: Mon Oct 17 13:28:45 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -150 um (x), -96.5 um (y), 19.7 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	419 nm	433 nm	223 nm
max	947 nm	979 nm	223 nm
Z	2.18 um	2.19 um	885 nm
Asymmetry	0.443		
Theta	48.5°		

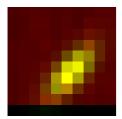
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.651$$



xc = 5.364 pxyc = 5.453 px Parameters:

A = 259.290 (brightness)

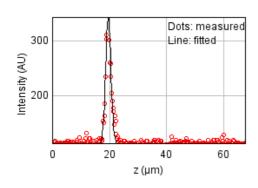
B = 101.021 (background)

a = 0.494 px

b = 0.305 px

c = 0.420 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20571.4672

Standard deviation: 8.18584

R^2: 0.94965

Parameters:

a = 111.13285

b = 344.72576

c = 19.66997

## Bead 944 (Rejected)

Date: Mon Oct 17 13:28:45 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 126 um (x), 89.1 um (y), 19.2 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	682 nm	705 nm	223 nm
max	1.6 um	1.65 um	223 nm
Z	1.1 um	1.11 um	885 nm
Asymmetry	0.427		
Theta	30.1°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.843$$



Parameters:

A = 119.521 (brightness)

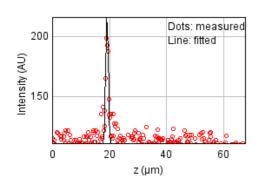
B = 119.064 (background) a = 0.112 px

b = 0.102 px

c = 0.230 px

xc = 5.543 pxyc = 4.175 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15144.6483

Standard deviation: 7.02361

R^2: 0.72950 Parameters:

a = 111.05201

b = 216.41219

c = 19.18467

Date: Mon Oct 17 13:28:46 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

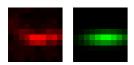
Coordinates: 163 um (x), 67.1 um (y), 19.7 um (z)

Corresponding bead : Not found

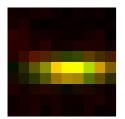
FWHM	Non corrected	Corrected	Theoretical
min	374 nm	387 nm	223 nm
max	1.25 um	1.3 um	223 nm
Z	2.51 um	2.52 um	885 nm
Asymmetry	0.298		
Theta	1.2°		

## XY profile & fitting parameters :

(red: the orignal 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 = 175.648 (brightness)

B = 113.670 (background)

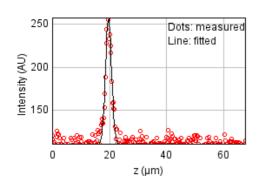
a = 0.086 px

b = 0.018 px

c = 0.959 px

xc = 5.566 pxyc = 5.182 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 14487.4794

Standard deviation: 6.86953

R^2: 0.92352 Parameters: a = 110.55510

b = 257.41847

c = 19.74538

d = 1.06616

Date: Mon Oct 17 13:28:46 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -106 um (x), 35.8 um (y), 20.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	438 nm	453 nm	223 nm
max	607 nm	628 nm	223 nm
Z	1.72 um	1.72 um	885 nm
Asymmetry	0.722		
Theta	-47.1°		

### XY profile & fitting parameters :

(red: the orignal 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 = 460.886 (brightness)

B = 122.782 (background)

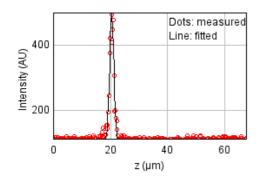
a = 0.544 px

b = -0.167 px

c = 0.519 px

xc = 5.471 pxyc = 6.108 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36700.7395

Standard deviation: 10.93373

R^2: 0.95854 Parameters: a = 113.17277

b = 500.63691

c = 20.52850

Date: Mon Oct 17 13:28:46 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -4.57 um (x), 26.7 um (y), 20.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	450 nm	465 nm	223 nm
max	751 nm	776 nm	223 nm
Z	1.32 um	1.32 um	885 nm
Asymmetry	0.599		
Theta	-89.1°		

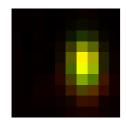
## XY profile & fitting parameters :

(red : the orignal 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:

 $A = 1018.378 \quad (brightness)$ 

B = 138.305 (background)

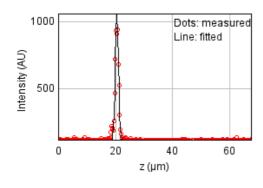
a = 0.663 px

b = -0.007 px

c = 0.238 px

xc = 6.225 pxyc = 4.622 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 79624.8512

Standard deviation: 16.10479

R^2: 0.98066 Parameters: a = 115.33126 b = 1076.02894 c = 20.56454

Date: Mon Oct 17 13:28:46 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

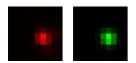
Coordinates: 82.3 um (x), 14.7 um (y), 21.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	414 nm	428 nm	223 nm
max	440 nm	455 nm	223 nm
Z	1.35 um	1.36 um	885 nm
Asymmetry	0.94		
Theta	-35.5°		

### XY profile & fitting parameters :

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



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



A = 1370.050 (brightness)

B = 129.025 (background)

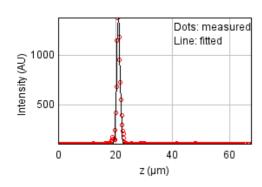
a = 0.723 px

b = -0.043 px

c = 0.753 px

xc = 6.011 pxyc = 5.361 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 122307.868

Standard deviation: 19.95988

R^2: 0.98295 Parameters: a = 115.04930 b = 1368.65642 c = 21.11720

Date: Mon Oct 17 13:28:46 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -44.0 um (x), -86.3 um (y), 20.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	591 nm	611 nm	223 nm
max	593 nm	613 nm	223 nm
Z	1.72 um	1.73 um	885 nm
Asymmetry	0.995		
Theta	26.4°		

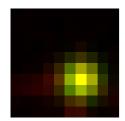
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.907$$



Parameters:

A = 590.203 (brightness)

B = 130.553 (background)

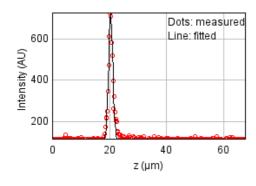
a = 0.382 px

b = 0.001 px

c = 0.384 px

xc = 5.987 pxyc = 6.065 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 61436.9881

Standard deviation: 14.14639

R^2: 0.97184 Parameters: a = 115.26822 b = 727.18995

c = 20.50026

# Bead 950 (Rejected)

Date: Mon Oct 17 13:28:46 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 126 um (x), 89.1 um (y), 19.2 um (z)

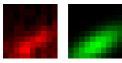
Corresponding bead: Not found

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

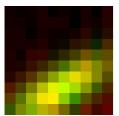
FWHM	Non corrected	Corrected	Theoretical
min	700 nm	723 nm	223 nm
max	1.87 um	1.93 um	223 nm
Z	1.1 um	1.11 um	885 nm
Asymmetry	0.375		
Theta	30.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.875$$



A = 119.626 (brightness)

B = 114.523 (background)

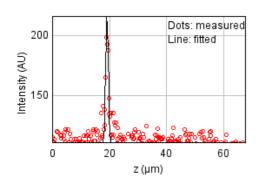
a = 0.099 px

b = 0.103 px

c = 0.213 px

xc = 4.568 pxyc = 7.170 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 15144.6483

Standard deviation: 7.02361

R^2: 0.72950 Parameters:

a = 111.05201

b = 216.41219

c = 19.18467

Date: Mon Oct 17 13:28:46 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

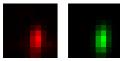
Coordinates: -8.2 um (x), 82.2 um (y), 20.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	384 nm	397 nm	223 nm
max	755 nm	781 nm	223 nm
Z	1.35 um	1.35 um	885 nm
Asymmetry	0.509		
Theta	85.1°		

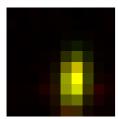
# XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.974$$



Parameters:

A = 936.954 (brightness)

B = 121.489 (background)

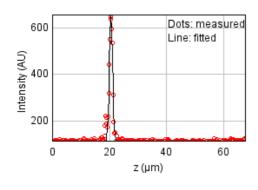
a = 0.904 px

b = 0.057 px

c = 0.240 px

xc = 5.746 pxyc = 6.229 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 49170.3580

Standard deviation: 12.65559

R^2: 0.96453 Parameters: a = 114.21588b = 661.48052

c = 20.59356

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 24.0 um (x), 73.7 um (y), 21.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	408 nm	422 nm	223 nm
max	635 nm	656 nm	223 nm
Z	1.34 um	1.35 um	885 nm
Asymmetry	0.643		
Theta	79.6°		

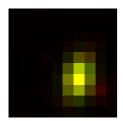
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.965$$



Parameters:

A = 841.828 (brightness)

B = 123.317 (background)

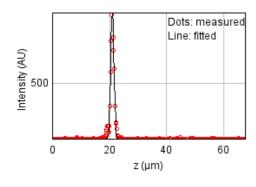
a = 0.791 px

b = 0.084 px

c = 0.348 px

xc = 5.979 pxyc = 5.871 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 60550.5247

Standard deviation: 14.04397

R^2: 0.98256 Parameters: a = 114.14867b = 988.69805

c = 21.09991

# Bead 953 (Rejected)

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -65.3 um (x), 37.4 um (y), 19.2 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.46 um	1.47 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

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

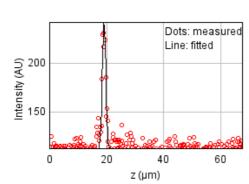




Fitted on y = a + (b-a)\*exp(-(x-c) $^2/(2*d^2)$ 

# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 15471.4020

Standard deviation: 7.09898

R^2: 0.83830 Parameters: a = 112.82422 b = 241.49995 c = 19.18532

# Bead 954 (Rejected)

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -88.2 um (x), 32.8 um (y), 61.2 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.07 um	1.08 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

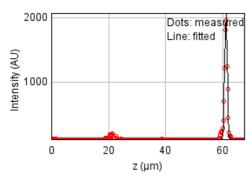
(red: the original data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 244303.132

Standard deviation: 28.20950

R^2: 0.98238 Parameters: a = 121.14765 b = 2069.70767

c = 61.19044

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

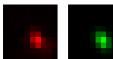
Coordinates: 31.9 um (x), 5.91 um (y), 21.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	379 nm	392 nm	223 nm
max	537 nm	555 nm	223 nm
Z	1.74 um	1.75 um	885 nm
Asymmetry	0.707		
Theta	-58.8°		

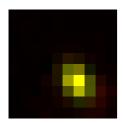
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.961$$



Parameters:

A = 928.040 (brightness)

B = 129.868 (background)

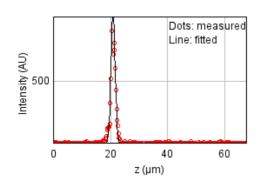
a = 0.807 px

b = -0.206 px

c = 0.591 px

xc = 5.830 pxyc = 6.137 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 173107.742

Standard deviation: 23.74592

R^2: 0.95406 Parameters: a = 114.30679b = 906.96763

c = 20.98082

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -160 um (x), 3.26 um (y), 20.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	358 nm	371 nm	223 nm
max	749 nm	774 nm	223 nm
Z	1.73 um	1.74 um	885 nm
Asymmetry	0.479		
Theta	18.0°		

## XY profile & fitting parameters :

(red: the orignal 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 = 428.331(brightness)

B = 121.154 (background)

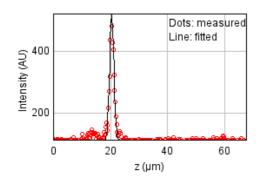
a = 0.316 px

b = 0.237 px

c = 0.967 px

xc = 5.695 pxyc = 6.177 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 40096.8020

Standard deviation: 11.42841

R^2: 0.95958 Parameters: a = 113.79566b = 522.32502

c = 20.53082

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -133 um (x), -32.7 um (y), 20.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	486 nm	503 nm	223 nm
max	616 nm	637 nm	223 nm
Z	1.78 um	1.79 um	885 nm
Asymmetry	0.789		
Theta	46.5°		

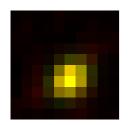
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.965$$



Parameters:

A = 479.298 (brightness)

B = 120.643 (background)

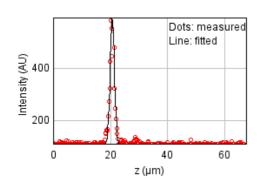
a = 0.466 px

b = 0.107 px

c = 0.455 px

xc = 4.992 pxyc = 5.766 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 53014.0802

Standard deviation: 13.14094

R^2: 0.96198 Parameters: a = 112.26760b = 591.26684

c = 20.71491

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

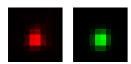
Coordinates: -35.3 um (x), -35.7 um (y), 63.8 um (z)

Corresponding bead: Not found

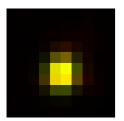
FWHM	Non corrected	Corrected	Theoretical
min	450 nm	465 nm	223 nm
max	504 nm	521 nm	223 nm
Z	1.23 um	1.23 um	885 nm
Asymmetry	0.893		
Theta	80.0°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.979$$



Parameters:

A = 1997.711 (brightness)

B = 132.006 (background)

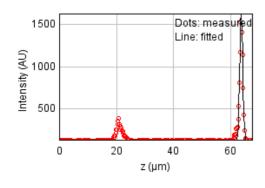
a = 0.659 px

b = 0.023 px

c = 0.533 px

xc = 4.589 pxyc = 5.427 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 492870.293

Standard deviation: 40.06795

R^2: 0.94965 Parameters:

a = 125.23135

b = 1632.15525

c = 63.76827

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

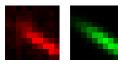
Coordinates: 159 um (x), -37.0 um (y), 19.9 um (z)

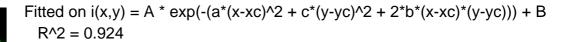
Corresponding bead: Not found

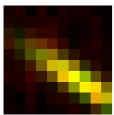
FWHM	Non corrected	Corrected	Theoretical
min	385 nm	398 nm	223 nm
max	1.83 um	1.89 um	223 nm
Z	2.3 um	2.3 um	885 nm
Asymmetry	0.211		
Theta	-32.9°		

### XY profile & fitting parameters :

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







Parameters:

A = 157.095 (brightness)

B = 115.304 (background)

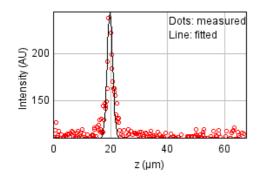
a = 0.296 px

b = -0.395 px

c = 0.650 px

xc = 6.497 pxyc = 6.395 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21949.0760

Standard deviation: 8.45549

R^2: 0.86185 Parameters: a = 110.02429

b = 245.56608

c = 19.89118

Date: Mon Oct 17 13:28:47 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -57.2 um (x), -47.3 um (y), 21.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	409 nm	423 nm	223 nm
max	526 nm	544 nm	223 nm
Z	1.47 um	1.48 um	885 nm
Asymmetry	0.778		
Theta	53.8°		

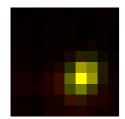
### XY profile & fitting parameters :

(red: the orignal 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 = 611.827 (brightness)

B = 131.146 (background)

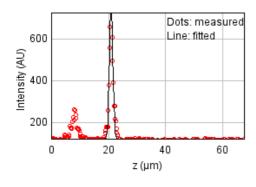
a = 0.691 px

b = 0.151 px

c = 0.595 px

xc = 6.154 pxyc = 5.877 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 173898.230

Standard deviation: 23.80008

R^2: 0.91432 Parameters: a = 119.22375

b = 736.90542

c = 21.00743

Date: Mon Oct 17 13:28:48 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

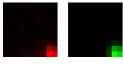
Coordinates: -81.8 um (x), -64.7 um (y), 24.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	401 nm	415 nm	223 nm
max	499 nm	516 nm	223 nm
Z	1.33 um	1.34 um	885 nm
Asymmetry	0.803		
Theta	-84.1°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.978$$



Parameters:

A = 943.311 (brightness)

B = 121.636 (background)

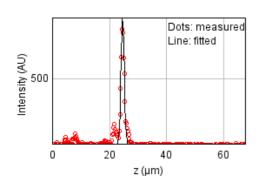
a = 0.831 px

b = -0.030 px

c = 0.541 px

xc = 8.385 pxyc = 8.953 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 143133.039

Standard deviation: 21.59239

R^2: 0.94312 Parameters: a = 119.80976 b = 851.92203 c = 24.67710

Date: Mon Oct 17 13:28:48 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

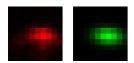
Coordinates: -21.1 um (x), -84.2 um (y), 21.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	487 nm	504 nm	223 nm
max	885 nm	915 nm	223 nm
Z	2.12 um	2.12 um	885 nm
Asymmetry	0.551		
Theta	-4.9°		

## XY profile & fitting parameters :

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



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



A = 641.479 (brightness)

B = 131.884 (background)

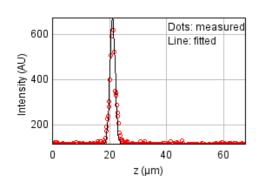
a = 0.174 px

b = -0.034 px

c = 0.562 px

xc = 5.892 pxyc = 4.928 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 80385.5297

Standard deviation: 16.18154

R^2: 0.96409 Parameters:

a = 114.37956

b = 673.72204

c = 21.14634

Date: Mon Oct 17 13:28:48 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

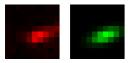
Coordinates: 131 um (x), 80.0 um (y), 20.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	374 nm	387 nm	223 nm
max	890 nm	920 nm	223 nm
Z	1.88 um	1.89 um	885 nm
Asymmetry	0.42		
Theta	17.6°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.946$$



Parameters:

A = 424.231(brightness)

B = 116.749 (background)

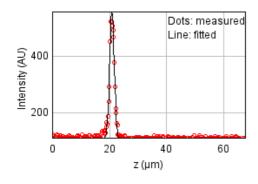
a = 0.242 px

b = 0.227 px

c = 0.885 px

xc = 5.984 pxyc = 5.246 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27563.3944

Standard deviation: 9.47539

R^2: 0.97804 Parameters: a = 111.71383

b = 557.88726

c = 20.94588

Date: Mon Oct 17 13:28:48 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 59.7 um (x), 78.1 um (y), 21.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	456 nm	471 nm	223 nm
max	688 nm	711 nm	223 nm
Z	2.14 um	2.15 um	885 nm
Asymmetry	0.663		
Theta	60.5°		

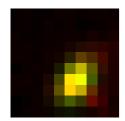
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.908$$



Parameters:

A = 516.787 (brightness)

B = 126.866 (background)

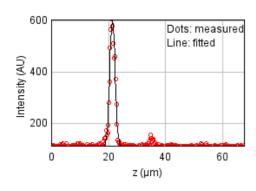
a = 0.558 px

b = 0.155 px

c = 0.372 px

xc = 5.556 pxyc = 6.149 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 50374.6789

Standard deviation: 12.80964

R^2: 0.97094 Parameters: a = 114.00895

b = 605.20921

c = 21.46618

Date: Mon Oct 17 13:28:48 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

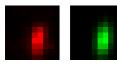
Coordinates: -1.85 um (x), 72.6 um (y), 20.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	436 nm	451 nm	223 nm
max	878 nm	908 nm	223 nm
Z	1.22 um	1.23 um	885 nm
Asymmetry	0.497		
Theta	82.7°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.980$ 



Parameters:

A = 708.021 (brightness)

B = 120.661 (background)

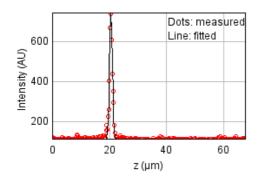
a = 0.697 px

b = 0.067 px

c = 0.183 px

xc = 5.599 pxyc = 5.835 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 41996.4715

Standard deviation: 11.69600

R^2: 0.97518 Parameters: a = 115.50433

b = 752.35189

c = 20.58930

Date: Mon Oct 17 13:28:48 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -158 um (x), 69.0 um (y), 21.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	367 nm	380 nm	223 nm
max	696 nm	719 nm	223 nm
Z	1.86 um	1.87 um	885 nm
Asymmetry	0.528		
Theta	-9.1°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.923$$



Parameters:

A = 493.152 (brightness)

B = 123.222 (background)

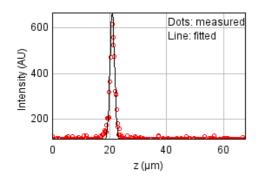
a = 0.295 px

b = -0.112 px

c = 0.977 px

xc = 5.473 pxyc = 6.219 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 103022.563

Standard deviation: 18.31880

R^2: 0.94807 Parameters:

a = 111.79995

b = 667.14797

c = 21.05593

# Bead 967 (Rejected)

Date: Mon Oct 17 13:28:48 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 67.4 um (x), 67.2 um (y), 21.8 um (z)

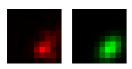
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

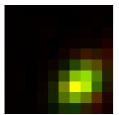
FWHM	Non corrected	Corrected	Theoretical
min	528 nm	546 nm	223 nm
max	742 nm	767 nm	223 nm
Z	1.86 um	1.87 um	885 nm
Asymmetry	0.711		
Theta	46.3°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.899$$



Parameters:

A = 513.659 (brightness) B = 121.734 (background)

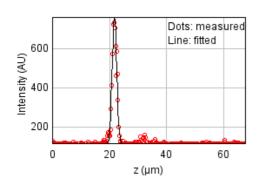
a = 0.368 px

b = 0.119 px

c = 0.357 px

xc = 6.464 pxyc = 6.753 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 98469.7991

Standard deviation: 17.90945

R^2: 0.96301 Parameters:

a = 114.76085

b = 762.80147

c = 21.82435

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -29.3 um (x), 15.4 um (y), 21.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	386 nm	399 nm	223 nm
max	523 nm	541 nm	223 nm
Z	1.6 um	1.61 um	885 nm
Asymmetry	0.738		
Theta	-87.6°		

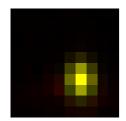
### XY profile & fitting parameters :

(red : the orignal 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 = 1171.456 (brightness)

B = 131.970 (background)

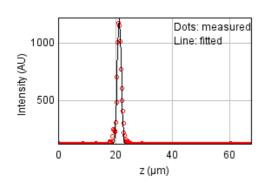
a = 0.898 px

b = -0.017 px

c = 0.490 px

xc = 5.982 pxyc = 6.032 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 113630.532

Standard deviation: 19.23882

R^2: 0.98286 Parameters: a = 115.71019 b = 1225.31417

c = 21.39570

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Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 99.1 um (x), 9.02 um (y), 20.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	410 nm	424 nm	223 nm
max	556 nm	575 nm	223 nm
Z	1.23 um	1.24 um	885 nm
Asymmetry	0.737		
Theta	-25.9°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.975$$



Parameters:

A = 681.200 (brightness)

B = 119.305 (background)

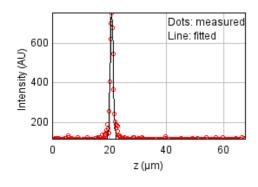
a = 0.503 px

b = -0.143 px

c = 0.729 px

xc = 6.430 pxyc = 5.998 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 46206.8034

Standard deviation: 12.26828

R^2: 0.97331 Parameters: a = 114.15499 b = 755.58666 c = 20.87512

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

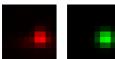
Coordinates: -18.6 um (x), 8.19 um (y), 21.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	451 nm	467 nm	223 nm
max	493 nm	510 nm	223 nm
Z	1.73 um	1.74 um	885 nm
Asymmetry	0.915		
Theta	-3.4°		

### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.969$$



Parameters:

A = 907.483 (brightness)

B = 127.604 (background)

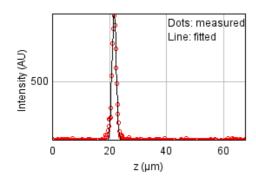
a = 0.552 px

b = -0.006 px

c = 0.658 px

xc = 6.578 pxyc = 5.757 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 63607.1448

Standard deviation: 14.39408

R^2: 0.98423 Parameters: a = 114.00065b = 949.37474c = 21.70951

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -19.0 um (x), -34.0 um (y), 17.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	464 nm	479 nm	223 nm
max	539 nm	557 nm	223 nm
Z	1.93 um	1.94 um	885 nm
Asymmetry	0.861		
Theta	-30.7°		

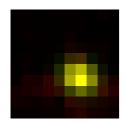
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.937$$



Parameters:

A = 635.039 (brightness)

B = 130.396 (background)

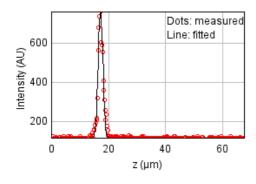
a = 0.504 px

b = -0.071 px

c = 0.582 px

xc = 5.862 pxyc = 5.745 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 87352.4695

Standard deviation: 16.86819

R^2: 0.96814 Parameters: a = 113.35984 b = 760.88922

c = 17.30088

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

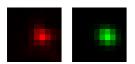
Coordinates: 56.3 um (x), -71.5 um (y), 21.4 um (z)

Corresponding bead: Not found

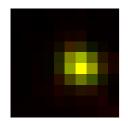
FWHM	Non corrected	Corrected	Theoretical
min	476 nm	492 nm	223 nm
max	550 nm	568 nm	223 nm
Z	1.46 um	1.47 um	885 nm
Asymmetry	0.866		
Theta	-29.0°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.961$ 



Parameters:

A = 921.470 (brightness)

B = 136.198 (background)

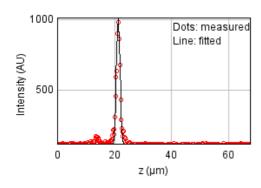
a = 0.479 px

b = -0.063 px

c = 0.558 px

xc = 5.955 pxyc = 4.805 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 109370.924

Standard deviation: 18.87477

R^2: 0.97270 Parameters:

a = 117.34522

b = 1015.24108

c = 21.39184

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

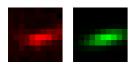
Coordinates: 156 um (x), 92.4 um (y), 20.3 um (z)

Corresponding bead: Not found

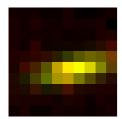
FWHM	Non corrected	Corrected	Theoretical
min	377 nm	389 nm	223 nm
max	1.15 um	1.18 um	223 nm
Z	1.97 um	1.98 um	885 nm
Asymmetry	0.329		
Theta	11.6°		

## XY profile & fitting parameters :

(red: the orignal 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 = 170.196 (brightness)

B = 113.373 (background)

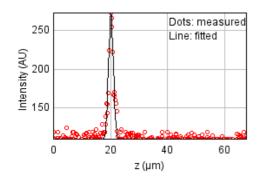
a = 0.136 px

b = 0.166 px

c = 0.912 px

xc = 5.645 pxyc = 5.155 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16738.3993

Standard deviation: 7.38393

R^2: 0.91046 Parameters:

a = 109.97254

b = 272.43530

c = 20.25014

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

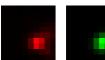
Coordinates: 86.5 um (x), 59.1 um (y), 21.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	455 nm	470 nm	223 nm
max	524 nm	541 nm	223 nm
Z	1.91 um	1.92 um	885 nm
Asymmetry	0.868		
Theta	25.6°		

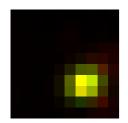
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.936$$



Parameters:

A = 864.324 (brightness)

B = 126.624 (background)

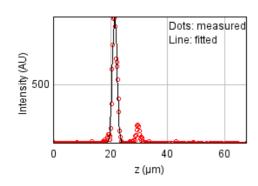
a = 0.519 px

b = 0.062 px

c = 0.620 px

xc = 6.364 pxyc = 6.323 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 186084.806

Standard deviation: 24.61990

R^2: 0.95806 Parameters: a = 116.81474b = 940.54247

c = 21.56742

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

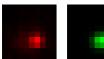
Coordinates: -92.2 um (x), 44.8 um (y), 22.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	428 nm	442 nm	223 nm
max	499 nm	516 nm	223 nm
Z	1.88 um	1.89 um	885 nm
Asymmetry	0.856		
Theta	8.0°		

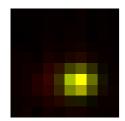
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.941$$



Parameters:

A = 715.982 (brightness)

B = 133.270 (background)

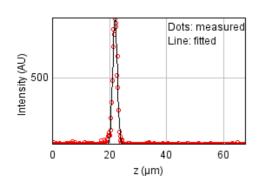
a = 0.542 px

b = 0.027 px

c = 0.730 px

xc = 5.747 pxyc = 6.221 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 63636.2865

Standard deviation: 14.39737

R^2: 0.98139 Parameters: a = 113.17358b = 851.28497

c = 22.02120

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

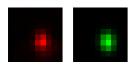
Coordinates: 10.3 um (x), 42.7 um (y), 21.4 um (z)

Corresponding bead: Not found

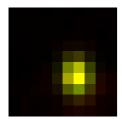
FWHM	Non corrected	Corrected	Theoretical
min	427 nm	441 nm	223 nm
max	552 nm	570 nm	223 nm
Z	1.45 um	1.46 um	885 nm
Asymmetry	0.774		
Theta	-85.1°		

### XY profile & fitting parameters :

(red: the orignal 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 = 965.104 (brightness)

B = 125.603 (background)

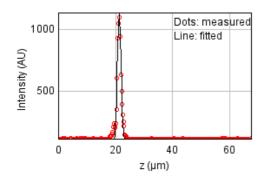
a = 0.734 px

b = -0.025 px

c = 0.443 px

xc = 5.789 pxyc = 5.830 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 108801.754

Standard deviation: 18.82560

R^2: 0.97867 Parameters: a = 116.65951

b = 1135.14279

c = 21.39354

## Bead 977 (Rejected)

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 20.4 um (x), -21.0 um (y), 18.1 um (z)

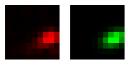
Corresponding bead: Not found

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

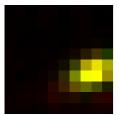
FWHM	Non corrected	Corrected	Theoretical
min	426 nm	440 nm	223 nm
max	737 nm	762 nm	223 nm
Z	3.14 um	3.15 um	885 nm
Asymmetry	0.577		
Theta	21.1°		

## 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 = 598.733 (brightness) B = 120.772 (background)

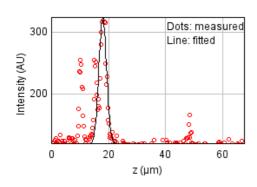
a = 0.311 px

b = 0.166 px

c = 0.676 px

xc = 7.679 pxyc = 5.678 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 184040.849

Standard deviation: 24.48431

R^2: 0.69795 Parameters: a = 118.30006

b = 324.55983

c = 18.07214

d = 1.33382

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 53.3 um (x), -22.2 um (y), 21.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	428 nm	443 nm	223 nm
max	510 nm	528 nm	223 nm
Z	1.43 um	1.43 um	885 nm
Asymmetry	0.84		
Theta	-66.5°		

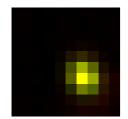
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.968$$



Parameters:

A = 1183.984 (brightness)

B = 128.001 (background)

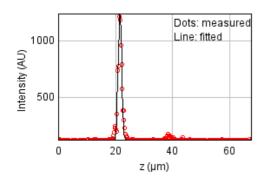
a = 0.697 px

b = -0.079 px

c = 0.550 px

xc = 6.195 pxyc = 5.867 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 177940.617

Standard deviation: 24.07511

R^2: 0.97142 Parameters:

a = 118.38839

b = 1248.62345

c = 21.63560

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

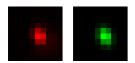
Coordinates: 56.2 um (x), -23.5 um (y), 21.4 um (z)

Corresponding bead: Not found

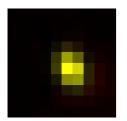
FWHM	Non corrected	Corrected	Theoretical
min	390 nm	404 nm	223 nm
max	529 nm	547 nm	223 nm
Z	1.42 um	1.43 um	885 nm
Asymmetry	0.739		
Theta	-66.9°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.974$$



Parameters:

A = 1365.803 (brightness)

B = 138.269 (background)

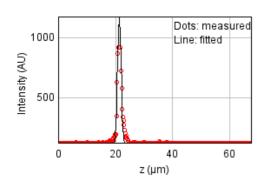
a = 0.819 px

b = -0.144 px

c = 0.541 px

xc = 5.391 pxyc = 5.028 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 176371.345

Standard deviation: 23.96872

R^2: 0.96874 Parameters: a = 115.82603

L 4400 4054

b = 1193.43519

c = 21.43714

Date: Mon Oct 17 13:28:49 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 145 um (x), -53.5 um (y), 18.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	455 nm	470 nm	223 nm
max	1.49 um	1.54 um	223 nm
Z	2.57 um	2.58 um	885 nm
Asymmetry	0.306		
Theta	-35.9°		

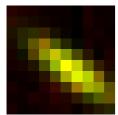
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.960$$



Parameters:

A = 209.163 (brightness)

B = 118.636 (background)

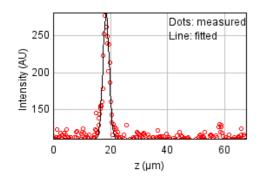
a = 0.263 px

b = -0.279 px

c = 0.446 px

xc = 5.542 pxyc = 5.401 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22007.1043

Standard deviation: 8.46666

R^2: 0.91617 Parameters:

a = 110.54469

b = 280.85096

c = 18.53378

d = 1.09163

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -126 um (x), -74.4 um (y), 20.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	425 nm	223 nm
max	927 nm	959 nm	223 nm
Z	1.68 um	1.69 um	885 nm
Asymmetry	0.443		
Theta	55.4°		

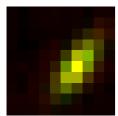
## XY profile & fitting parameters :

(red : the orignal 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 = 312.245 (brightness)

B = 120.798 (background)

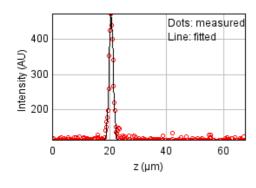
a = 0.588 px

b = 0.298 px

c = 0.362 px

xc = 6.011 pxyc = 4.966 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18388.9584

Standard deviation: 7.73944

R^2: 0.97516 Parameters: a = 112.16988 b = 473.29057

c = 20.67043

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -2.06 um (x), 91.1 um (y), 21.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	397 nm	410 nm	223 nm
max	1.06 um	1.1 um	223 nm
Z	1.11 um	1.12 um	885 nm
Asymmetry	0.373		
Theta	82.6°		

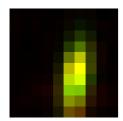
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.947$$



xc = 5.616 pxyc = 5.783 px Parameters:

A = 683.981 (brightness)

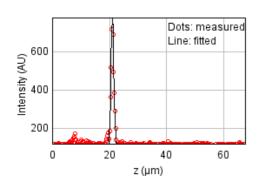
B = 123.481 (background)

a = 0.841 px

b = 0.094 px

c = 0.131 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 44697.7850

Standard deviation: 12.06629

R^2: 0.97322 Parameters:

a = 115.73508

b = 777.44562

c = 21.12987

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

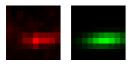
Coordinates: 161 um (x), 72.4 um (y), 20.5 um (z)

Corresponding bead: Not found

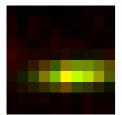
FWHM	Non corrected	Corrected	Theoretical
min	379 nm	392 nm	223 nm
max	1.2 um	1.24 um	223 nm
Z	2.09 um	2.1 um	885 nm
Asymmetry	0.316		
Theta	3.7°		

### XY profile & fitting parameters :

(red: the orignal 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 = 167.374 (brightness)

B = 117.036 (background)

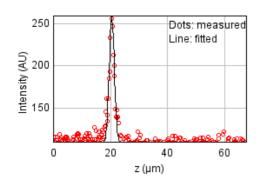
a = 0.097 px

b = 0.054 px

c = 0.931 px

xc = 5.851 pxyc = 5.811 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15732.8993

Standard deviation: 7.15872

R^2: 0.90791 Parameters: a = 109.14224 b = 259.88150

c = 20.53587

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

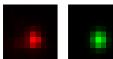
Coordinates: -64.9 um (x), 57.2 um (y), 22.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	454 nm	470 nm	223 nm
max	519 nm	536 nm	223 nm
Z	1.41 um	1.42 um	885 nm
Asymmetry	0.876		
Theta	89.6°		

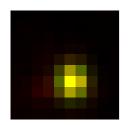
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.953$$



Parameters:

A = 921.250 (brightness)

B = 133.867 (background)

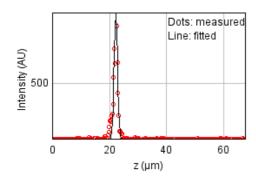
a = 0.650 px

b = 0.001 px

c = 0.499 px

xc = 5.200 pxyc = 6.032 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 180697.191

Standard deviation: 24.26088

R^2: 0.95313 Parameters: a = 115.85618b = 1001.36130

c = 22.31117

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

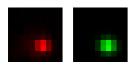
Coordinates: -89.6 um (x), 44.5 um (y), 22.5 um (z)

Corresponding bead: Not found

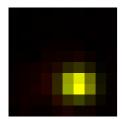
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	446 nm	223 nm
max	494 nm	511 nm	223 nm
Z	1.8 um	1.81 um	885 nm
Asymmetry	0.872		
Theta	-6.1°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.969$ 



Parameters:

A = 867.907 (brightness)

B = 130.328 (background)

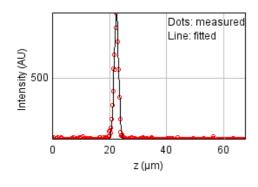
a = 0.551 px

b = -0.018 px

c = 0.720 px

xc = 5.853 pxyc = 6.564 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 109963.457

Standard deviation: 18.92583

R^2: 0.97182 Parameters:

a = 113.83412

b = 914.45341

c = 22.49672

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

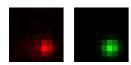
Coordinates: -88.0 um (x), 37.9 um (y), 22.1 um (z)

Corresponding bead: Not found

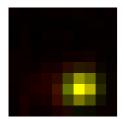
FWHM	Non corrected	Corrected	Theoretical
min	451 nm	467 nm	223 nm
max	494 nm	511 nm	223 nm
Z	1.94 um	1.95 um	885 nm
Asymmetry	0.914		
Theta	16.5°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.936$ 



Parameters:

A = 576.690 (brightness)

B = 125.665 (background)

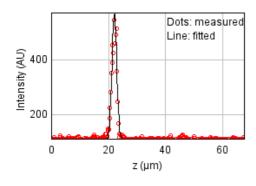
a = 0.559 px

b = 0.030 px

c = 0.650 px

xc = 6.188 pxyc = 6.891 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 65839.6825

Standard deviation: 14.64450

R^2: 0.95338 Parameters: a = 113.02056

b = 573.03297

c = 22.14865

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

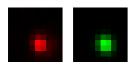
Coordinates: 37.9 um (x), 37.1 um (y), 22.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	453 nm	468 nm	223 nm
max	509 nm	526 nm	223 nm
Z	1.67 um	1.67 um	885 nm
Asymmetry	0.891		
Theta	-66.1°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.968$ 



Parameters:

A = 1059.791 (brightness)

B = 128.938 (background)

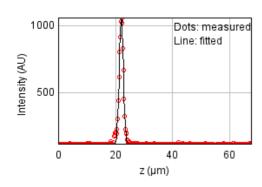
a = 0.632 px

b = -0.050 px

c = 0.541 px

xc = 5.418 pxyc = 6.343 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 40453.4890

Standard deviation: 11.47913

R^2: 0.99193 Parameters:

a = 114.01587

b = 1064.96617

c = 22.13897

# Bead 988 (Rejected)

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 16.1 um (x), 16.1 um (y), 48.0 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.35 um	1.35 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

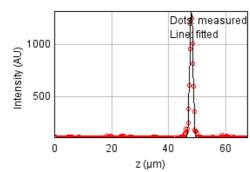
(red: the original data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





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

Sum of residuals squared: 52055.4552

Standard deviation: 13.02159

R^2: 0.99198 Parameters:

a = 116.65584

b = 1316.23842

c = 48.02118

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 9.25 um (x), -8.86 um (y), 21.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	384 nm	397 nm	223 nm
max	565 nm	584 nm	223 nm
Z	1.68 um	1.69 um	885 nm
Asymmetry	0.68		
Theta	-71.7°		

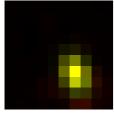
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.959$$



xc = 6.050 px

yc = 6.267 px

#### Parameters:

A = 1044.983 (brightness)

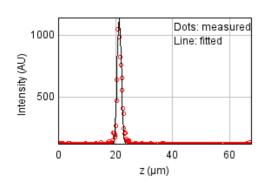
B = 127.827 (background)

a = 0.861 px

b = -0.146 px

c = 0.468 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 256789.164

Standard deviation: 28.92139

R^2: 0.95816 Parameters: a = 114.77293

b = 1146.07729

c = 21.39207

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

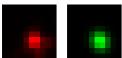
Coordinates: 30.5 um (x), -44.3 um (y), 21.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	506 nm	523 nm	223 nm
max	574 nm	594 nm	223 nm
Z	1.43 um	1.44 um	885 nm
Asymmetry	0.88		
Theta	-59.2°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.950$$



Parameters:

A = 1254.618 (brightness)

B = 131.846 (background)

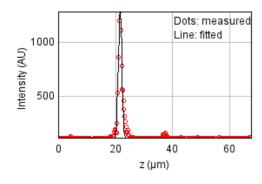
a = 0.494 px

b = -0.052 px

c = 0.438 px

xc = 5.544 pxyc = 6.258 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 272138.102

Standard deviation: 29.77320

R^2: 0.95952 Parameters: a = 118.57190

b = 1284.68425

c = 21.70726

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 151 um (x), -56.1 um (y), 20.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	398 nm	411 nm	223 nm
max	1.37 um	1.42 um	223 nm
Z	2.44 um	2.45 um	885 nm
Asymmetry	0.29		
Theta	-35.5°		

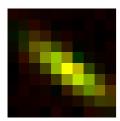
# XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.927$$



Parameters:

A = 167.562 (brightness)

B = 113.429 (background)

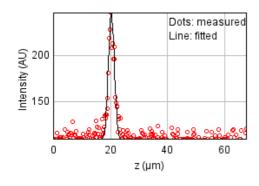
a = 0.334 px

b = -0.367 px

c = 0.586 px

xc = 5.188 pxyc = 5.168 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17394.2815

Standard deviation: 7.52721

R^2: 0.89244 Parameters: a = 110.23925 b = 245.50731 c = 20.39486

d = 1.03510

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

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

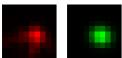
Coordinates: -43.2 um (x), -80.4 um (y), 21.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	535 nm	553 nm	223 nm
max	614 nm	635 nm	223 nm
Z	1.24 um	1.24 um	885 nm
Asymmetry	0.871		
Theta	-14.8°		

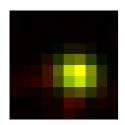
### XY profile & fitting parameters :

(red : the orignal 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 = 870.396 (brightness)

B = 139.314 (background)

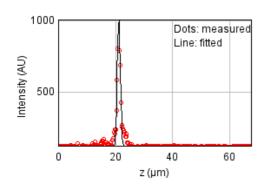
a = 0.363 px

b = -0.028 px

c = 0.462 px

xc = 5.725 pxyc = 5.358 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 138489.621

Standard deviation: 21.23926

R^2: 0.96021 Parameters: a = 117.23279

b = 1017.49499

c = 21.25768

# Bead 993 (Rejected)

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 27.6 um (x), 56.6 um (y), 20.4 um (z)

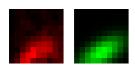
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	691 nm	715 nm	223 nm
max	1.48 um	1.53 um	223 nm
Z	1.25 um	1.26 um	885 nm
Asymmetry	0.467		
Theta	31.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.901$$



A = 147.774 (brightness)

B = 114.408 (background)

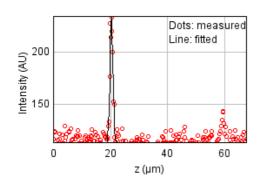
a = 0.121 px

b = 0.098 px

c = 0.220 px

xc = 4.523 pxyc = 7.540 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16877.3589

Standard deviation: 7.41452

R^2: 0.78039 Parameters:

a = 114.04374

b = 234.11863

c = 20.42033

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 82.8 um (x), 43.6 um (y), 22.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	449 nm	464 nm	223 nm
max	467 nm	483 nm	223 nm
Z	1.62 um	1.63 um	885 nm
Asymmetry	0.961		
Theta	18.0°		

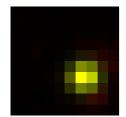
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.954$$



Parameters:

A = 1008.017 (brightness)

B = 125.576 (background)

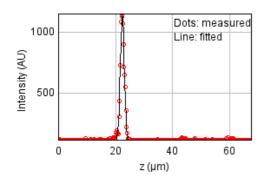
a = 0.619 px

b = 0.015 px

c = 0.661 px

xc = 6.336 pxyc = 5.948 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 117118.273

Standard deviation: 19.53184

R^2: 0.97997 Parameters: a = 115.64655 b = 1150.73342

c = 22.48061

# Bead 995 (Rejected)

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 157 um (x), -9.24 um (y), 38.9 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	263 nm	264 nm	885 nm
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

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

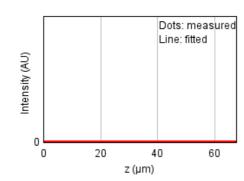




Fitted on y = a + (b-a)\*exp(-(x-c) $^2/(2*d^2)$ 

# Z profile & fitting parameters:





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

Sum of residuals squared: 0.00000E0

Standard deviation: 0.00000E0

R^2: 0.00000 Parameters: a = 0.00000E0 b = 0.00000E0 c = -0.11115

# Bead 996 (Rejected)

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: -71.9 um (x), -46.4 um (y), 37.8 um (z)

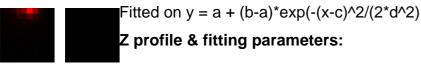
Corresponding bead: Not found

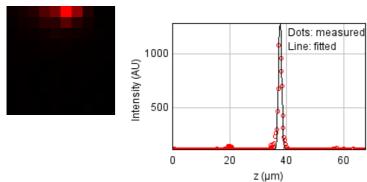
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.36 um	1.37 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

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





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 247668.687

Standard deviation: 28.40314

R^2: 0.96157 Parameters: a = 117.32593 b = 1288.35230 c = 37.77649

# Bead 997 (Rejected)

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 80.3 um (x), -54.3 um (y), 60.5 um (z)

Corresponding bead: Not found

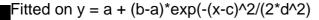
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	263 nm	264 nm	885 nm
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

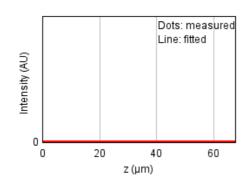
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





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

Sum of residuals squared: 0.00000E0

Standard deviation: 0.00000E0

R^2: 0.00000 Parameters: a = 0.00000E0 b = 0.00000E0 c = -0.11115

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

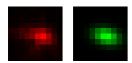
Coordinates: -74.2 um (x), -90.6 um (y), 21.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	486 nm	502 nm	223 nm
max	800 nm	827 nm	223 nm
Z	1.35 um	1.36 um	885 nm
Asymmetry	0.607		
Theta	-14.1°		

## XY profile & fitting parameters :

(red: the orignal 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 = 547.061 (brightness)

B = 127.010 (background)

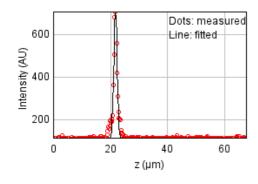
a = 0.231 px

b = -0.085 px

c = 0.548 px

xc = 5.596 pxyc = 5.003 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 57316.3113

Standard deviation: 13.66375

R^2: 0.96474 Parameters: a = 116.03051 b = 706.62753 c = 21.83523 d = 0.57535

# Bead 999 (Rejected)

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

Coordinates: 27.5 um (x), 56.3 um (y), 20.4 um (z)

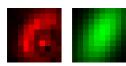
Corresponding bead: Not found

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

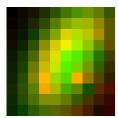
FWHM	Non corrected	Corrected	Theoretical
min	1.12 um	1.16 um	223 nm
max	2.18 um	2.25 um	223 nm
Z	1.25 um	1.26 um	885 nm
Asymmetry	0.515		
Theta	62.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.661$$



Parameters:

A = 135.611 (brightness) B = 106.615 (background)

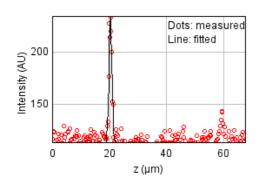
a = 0.090 px

b = 0.032 px

c = 0.045 px

xc = 5.120 pxyc = 3.962 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16877.3589

Standard deviation: 7.41452

R^2: 0.78039 Parameters: a = 114.04374

b = 234.11863

c = 20.42033

Date: Mon Oct 17 13:28:51 PDT 2022

Origin: data\_traditional.tif (Nikon 40x1.15 water)

Frame size: 10 pixels

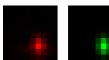
Coordinates: -26.8 um (x), 22.9 um (y), 22.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	390 nm	404 nm	223 nm
max	503 nm	520 nm	223 nm
Z	1.48 um	1.48 um	885 nm
Asymmetry	0.777		
Theta	-88.2°		

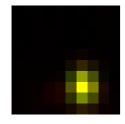
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.974$$



A = 1210.438 (brightness)

B = 123.541 (background)

a = 0.880 px

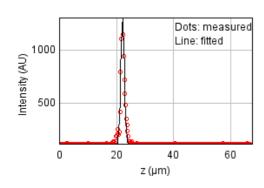
Parameters:

b = -0.011 px

c = 0.531 px

xc = 6.117 pxyc = 6.939 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 178499.396

Standard deviation: 24.11289

R^2: 0.97475 Parameters: a = 115.70544b = 1302.42575c = 22.22754