## Bead 2801 (Rejected)

Date: Mon Oct 17 13:30:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: 89.9 um (x), 37.6 um (y), 61.8 um (z)

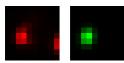
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	373 nm	386 nm	223 nm
max	472 nm	488 nm	223 nm
Z	1.2 um	1.2 um	885 nm
Asymmetry	0.79		
Theta	80.1°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.689$$



#### Parameters:

A = 1481.937 (brightness) B = 169.761 (background)

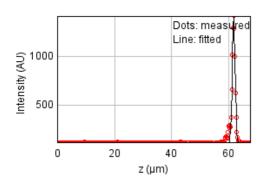
a = 0.953 px

b = 0.062 px

c = 0.612 px

xc = 2.641 pxyc = 5.217 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 114199.300

Standard deviation: 19.28690

R^2: 0.98303 Parameters:

a = 116.41821

b = 1404.78283

c = 61.80873

Date: Mon Oct 17 13:30:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: 100 um (x), 36.5 um (y), 61.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	420 nm	434 nm	223 nm
max	540 nm	559 nm	223 nm
Z	1.29 um	1.29 um	885 nm
Asymmetry	0.778		
Theta	76.8°		

### XY profile & fitting parameters :

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





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



Parameters:

 $A = 1458.765 \quad (brightness)$ 

B = 131.993 (background)

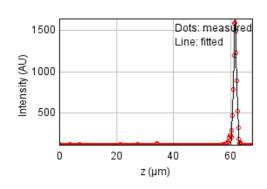
a = 0.744 px

b = 0.067 px

c = 0.475 px

xc = 6.173 pxyc = 6.196 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 63556.1324

Standard deviation: 14.38830

R^2: 0.99364 Parameters: a = 113.79231 b = 1638.31914 c = 61.60997

Date: Mon Oct 17 13:30:05 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

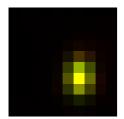
FWHM	Non corrected	Corrected	Theoretical
min	370 nm	382 nm	223 nm
max	535 nm	553 nm	223 nm
Z	1.07 um	1.08 um	885 nm
Asymmetry	0.692		
Theta	89.1°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 1748.714 (brightness)

B = 132.352 (background)

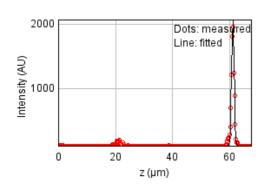
a = 0.980 px

b = 0.008 px

c = 0.469 px

xc = 6.066 pxyc = 5.884 px

## 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

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

Frame size: 10 pixels

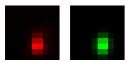
Coordinates: -13.3 um (x), 33.7 um (y), 61.4 um (z)

Corresponding bead: Not found

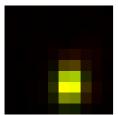
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	408 nm	223 nm
max	544 nm	563 nm	223 nm
Z	1.42 um	1.43 um	885 nm
Asymmetry	0.726		
Theta	86.8°		

#### 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 = 1851.478 (brightness)

B = 132.304 (background)

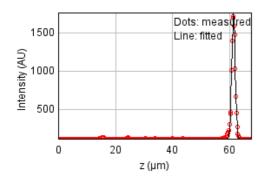
a = 0.859 px

b = 0.023 px

c = 0.454 px

xc = 5.504 pxyc = 6.783 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 103390.590

Standard deviation: 18.35149

R^2: 0.99199 Parameters: a = 116.18864 b = 1765.08548 c = 61.39793

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

Frame size: 10 pixels

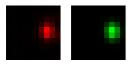
Coordinates: 31.5 um (x), 20.0 um (y), 49.2 um (z)

Corresponding bead: Not found

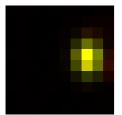
FWHM	Non corrected	Corrected	Theoretical
min	402 nm	416 nm	223 nm
max	502 nm	519 nm	223 nm
Z	1.29 um	1.29 um	885 nm
Asymmetry	0.801		
Theta	-86.1°		

### 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 = 1997.183 (brightness)

B = 130.384 (background)

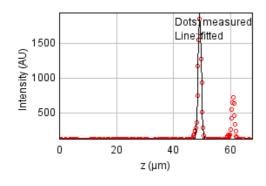
a = 0.829 px

b = -0.020 px

c = 0.534 px

xc = 7.112 pxyc = 4.286 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 1549686.26

Standard deviation: 71.04814

R^2: 0.90203 Parameters:

a = 128.31787

b = 1953.14890

c = 49.20778

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

Frame size: 10 pixels

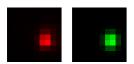
Coordinates: 116 um (x), 12.0 um (y), 61.5 um (z)

Corresponding bead: Not found

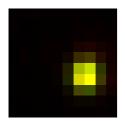
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	418 nm	223 nm
max	460 nm	476 nm	223 nm
Z	1.12 um	1.13 um	885 nm
Asymmetry	0.878		
Theta	85.5°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.977$$



A = 1346.792 (brightness)

B = 122.645 (background)

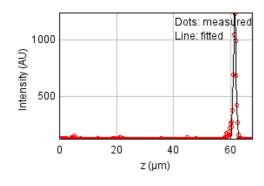
a = 0.821 px

b = 0.015 px

c = 0.635 px

xc = 6.608 pxyc = 5.609 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 70482.3953

Standard deviation: 15.15204

R^2: 0.98612 Parameters: a = 114.58657 b = 1270.79405 c = 61.48329

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

Frame size: 10 pixels

Coordinates: -129 um (x), 5.25 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	395 nm	408 nm	223 nm
max	586 nm	606 nm	223 nm
Z	1.18 um	1.19 um	885 nm
Asymmetry	0.673		
Theta	85.6°		

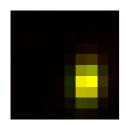
#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.987$$



Parameters:

A = 1332.914 (brightness)

B = 123.532 (background)

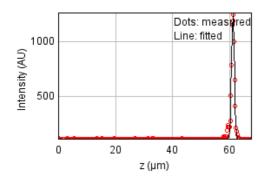
a = 0.859 px

b = 0.036 px

c = 0.393 px

xc = 6.538 pxyc = 6.119 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 66131.2744

Standard deviation: 14.67690

R^2: 0.98750 Parameters:

a = 113.44235

b = 1266.16777

c = 61.21792

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

Frame size: 10 pixels

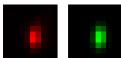
Coordinates: -78.0 um (x), -9.36 um (y), 60.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	358 nm	370 nm	223 nm
max	621 nm	642 nm	223 nm
Z	1.15 um	1.16 um	885 nm
Asymmetry	0.576		
Theta	86.5°		

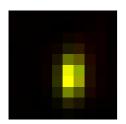
#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.982$$



Parameters:

A = 1246.486 (brightness)

B = 127.806 (background)

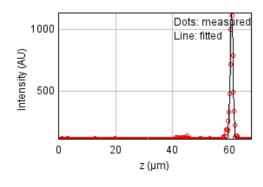
a = 1.045 px

b = 0.042 px

c = 0.350 px

xc = 5.306 pxyc = 5.536 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 52088.1774

Standard deviation: 13.02568

R^2: 0.98722 Parameters: a = 114.73708b = 1138.15581c = 60.74142

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

Frame size: 10 pixels

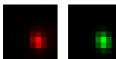
Coordinates: 146 um (x), -36.6 um (y), 61.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	399 nm	413 nm	223 nm
max	508 nm	525 nm	223 nm
Z	1.21 um	1.22 um	885 nm
Asymmetry	0.786		
Theta	-73.9°		

#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.985$$



Parameters:

A = 2793.658 (brightness)

B = 141.722 (background)

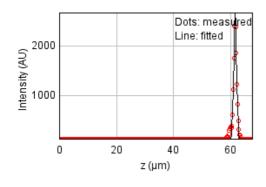
a = 0.817 px

b = -0.086 px

c = 0.545 px

xc = 5.961 pxyc = 6.253 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 298716.382

Standard deviation: 31.19323

R^2: 0.98879 Parameters:

a = 116.43243

b = 2669.26974

c = 61.62233

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

Frame size: 10 pixels

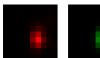
Coordinates: -39.4 um (x), -44.2 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	376 nm	388 nm	223 nm
max	550 nm	568 nm	223 nm
Z	1.11 um	1.12 um	885 nm
Asymmetry	0.683		
Theta	-87.9°		

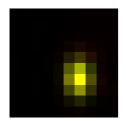
#### XY profile & fitting parameters :

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





Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B$  $R^2 = 0.988$ 



Parameters:

A = 1820.633 (brightness)

B = 129.066 (background)

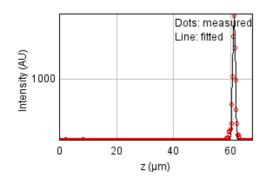
a = 0.950 px

b = -0.018 px

c = 0.445 px

xc = 5.888 pxyc = 5.882 px

## Z profile & fitting parameters:



Fitted on y = a +  $(b-a)*exp(-(x-c)^2/(2*d^2)$ Sum of residuals squared: 95506.3847

Standard deviation: 17.63791

R^2: 0.99254 Parameters: a = 115.02202b = 1966.13067c = 61.24568

Date: Mon Oct 17 13:30:06 PDT 2022

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

Frame size: 10 pixels

Coordinates: 85.6 um (x), -50.0 um (y), 61.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	407 nm	421 nm	223 nm
max	518 nm	535 nm	223 nm
Z	1.27 um	1.27 um	885 nm
Asymmetry	0.786		
Theta	-74.3°		

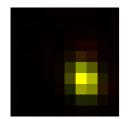
#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.982$$



Parameters:

A = 1425.546 (brightness)

B = 122.269 (background)

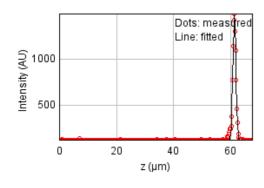
a = 0.787 px

b = -0.080 px

c = 0.523 px

xc = 6.295 pxyc = 6.077 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 65170.0393

Standard deviation: 14.56984

R^2: 0.99199 Parameters: a = 114.16909 b = 1498.62976 c = 61.37266

Date: Mon Oct 17 13:30:06 PDT 2022

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

Frame size: 10 pixels

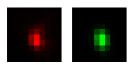
Coordinates: 83.8 um (x), -62.1 um (y), 60.9 um (z)

Corresponding bead: Not found

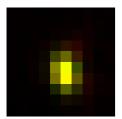
FWHM	Non corrected	Corrected	Theoretical
min	377 nm	390 nm	223 nm
max	543 nm	562 nm	223 nm
Z	1.24 um	1.25 um	885 nm
Asymmetry	0.694		
Theta	-80.8°		

#### XY profile & fitting parameters :

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



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



A = 1440.827 (brightness)

B = 132.481 (background)

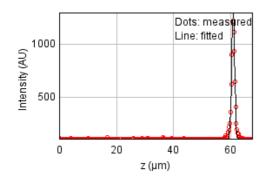
a = 0.931 px

b = -0.077 px

c = 0.467 px

xc = 4.888 pxyc = 5.451 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 50031.3694

Standard deviation: 12.76592

R^2: 0.99133 Parameters: a = 114.30616 b = 1290.80301 c = 60.94240

Date: Mon Oct 17 13:30:06 PDT 2022

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

Frame size: 10 pixels

Coordinates: 6.89 um (x), -82.6 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	373 nm	386 nm	223 nm
max	539 nm	557 nm	223 nm
Z	1.51 um	1.52 um	885 nm
Asymmetry	0.692		
Theta	81.2°		

#### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.981$$



A = 1632.113 (brightness)

B = 137.587 (background)

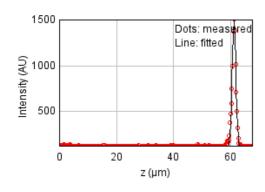
a = 0.952 px

b = 0.076 px

c = 0.473 px

xc = 5.314 pxyc = 1.374 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 93152.1695

Standard deviation: 17.41916

R^2: 0.99054 Parameters: a = 117.04279 b = 1514.02442

c = 61.24391

Date: Mon Oct 17 13:30:06 PDT 2022

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

Frame size: 10 pixels

Coordinates: 64.9 um (x), 82.8 um (y), 61.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	401 nm	415 nm	223 nm
max	749 nm	775 nm	223 nm
Z	1.39 um	1.39 um	885 nm
Asymmetry	0.535		
Theta	75.8°		

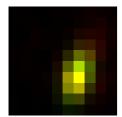
### XY profile & fitting parameters :

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





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



Parameters:

A = 864.309 (brightness)

B = 129.353 (background)

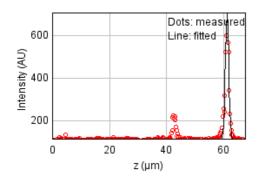
a = 0.798 px

b = 0.142 px

c = 0.275 px

xc = 5.863 pxyc = 5.857 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 105851.019

Standard deviation: 18.56856

R^2: 0.93942 Parameters: a = 116.50440 b = 713.71522

c = 61.25654d = 0.58941

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 63.3 um (x), 75.3 um (y), 61.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	423 nm	437 nm	223 nm
max	668 nm	690 nm	223 nm
Z	1.33 um	1.34 um	885 nm
Asymmetry	0.633		
Theta	74.6°		

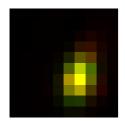
#### XY profile & fitting parameters :

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





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



Parameters:

A = 1156.727 (brightness)

B = 127.838 (background)

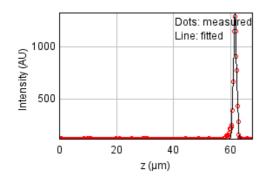
a = 0.719 px

b = 0.115 px

c = 0.333 px

xc = 5.907 pxyc = 5.854 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 234976.357

Standard deviation: 27.66578

R^2: 0.96532 Parameters: a = 114.42645 b = 1331.03099 c = 61.57814

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 92.9 um (x), 72.0 um (y), 61.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	393 nm	407 nm	223 nm
max	824 nm	852 nm	223 nm
Z	1.39 um	1.39 um	885 nm
Asymmetry	0.477		
Theta	71.1°		

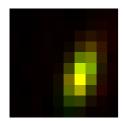
### XY profile & fitting parameters :

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





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



Parameters:

A = 747.283 (brightness)

B = 124.377 (background)

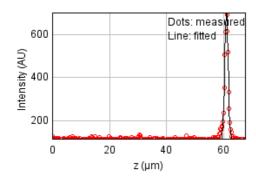
a = 0.797 px

b = 0.205 px

c = 0.268 px

xc = 6.142 pxyc = 5.594 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25487.2993

Standard deviation: 9.11156

R^2: 0.98477 Parameters:

a = 113.33858

b = 711.88873

c = 61.04846

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 75.6 um (x), 66.6 um (y), 61.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	406 nm	420 nm	223 nm
max	561 nm	580 nm	223 nm
Z	1.11 um	1.12 um	885 nm
Asymmetry	0.724		
Theta	69.0°		

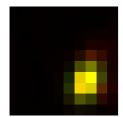
### XY profile & fitting parameters :

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





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



Parameters:

A = 1323.257 (brightness)

B = 124.563 (background)

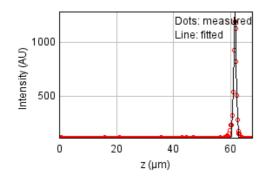
a = 0.763 px

b = 0.129 px

c = 0.475 px

xc = 6.577 pxyc = 6.379 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 65175.6285

Standard deviation: 14.57047

R^2: 0.98732 Parameters: a = 113.73769 b = 1281.64404 c = 61.56264

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

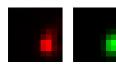
Coordinates: 67.9 um (x), 65.1 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	426 nm	440 nm	223 nm
max	614 nm	635 nm	223 nm
Z	1.21 um	1.21 um	885 nm
Asymmetry	0.693		
Theta	82.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 1181.061 (brightness)

B = 121.469 (background)

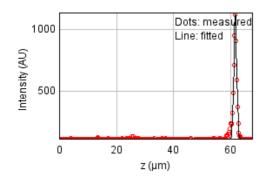
a = 0.734 px

b = 0.049 px

c = 0.362 px

xc = 6.702 pxyc = 6.309 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 68392.9803

Standard deviation: 14.92576

R^2: 0.98416 Parameters: a = 114.74713b = 1143.12516

c = 61.66587

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 102 um (x), 64.1 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	430 nm	445 nm	223 nm
max	626 nm	647 nm	223 nm
Z	1.25 um	1.26 um	885 nm
Asymmetry	0.687		
Theta	77.4°		

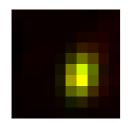
#### XY profile & fitting parameters :

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





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



Parameters:

A = 860.922 (brightness)

B = 121.904 (background)

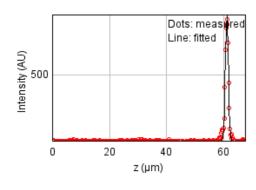
a = 0.708 px

b = 0.081 px

c = 0.361 px

xc = 5.895 pxyc = 5.585 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26698.1438

Standard deviation: 9.32548

R^2: 0.98822 Parameters: a = 113.52504 b = 847.35044 c = 61.18212

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 111 um (x), 59.9 um (y), 61.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	405 nm	419 nm	223 nm
max	583 nm	603 nm	223 nm
Z	1.63 um	1.64 um	885 nm
Asymmetry	0.695		
Theta	69.7°		

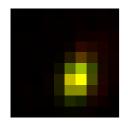
#### XY profile & fitting parameters :

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





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



Parameters:

A = 923.331(brightness)

B = 122.762 (background)

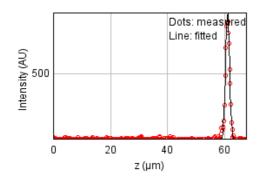
a = 0.767 px

b = 0.138 px

c = 0.446 px

xc = 5.711 pxyc = 5.927 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 40677.0467

Standard deviation: 11.51080

R^2: 0.98704 Parameters: a = 112.72579b = 870.84463c = 61.08239

# Bead 2821 (Rejected)

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 90.6 um (x), 56.8 um (y), 27.7 um (z)

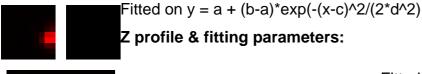
Corresponding bead: Not found

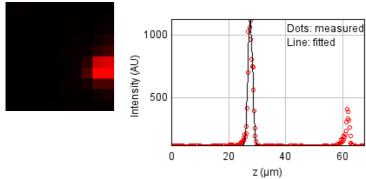
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.87 um	1.88 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: 547246.992

Standard deviation: 42.22042

R^2: 0.91871 Parameters: a = 122.60116 b = 1125.61907 c = 27.66704

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

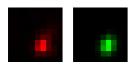
Coordinates: 99.0 um (x), 47.4 um (y), 61.5 um (z)

Corresponding bead: Not found

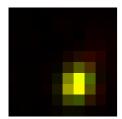
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	417 nm	223 nm
max	518 nm	536 nm	223 nm
Z	1.23 um	1.23 um	885 nm
Asymmetry	0.778		
Theta	68.4°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 1027.759 (brightness)

B = 127.566 (background)

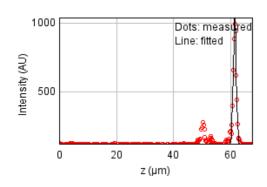
a = 0.781 px

b = 0.112 px

c = 0.544 px

xc = 5.850 pxyc = 6.506 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 178772.723

Standard deviation: 24.13134

R^2: 0.95264 Parameters: a = 118.18199 b = 1057.35545

c = 61.49211

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -20.4 um (x), 44.7 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	356 nm	368 nm	223 nm
max	612 nm	633 nm	223 nm
Z	1.26 um	1.27 um	885 nm
Asymmetry	0.581		
Theta	79.8°		

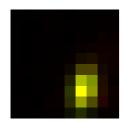
#### XY profile & fitting parameters :

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





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



Parameters:

A = 1669.910 (brightness)

B = 130.840 (background)

a = 1.039 px

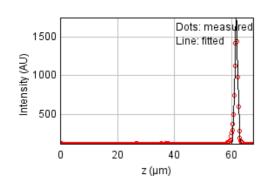
b = 0.122 px

c = 0.380 px

xc = 6.281 px

yc = 6.793 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 113205.716

Standard deviation: 19.20282

R^2: 0.99012 Parameters: a = 116.08379b = 1759.64678c = 61.66851

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

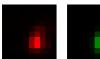
Coordinates: 84.0 um (x), 42.2 um (y), 61.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	406 nm	420 nm	223 nm
max	557 nm	576 nm	223 nm
Z	1.24 um	1.25 um	885 nm
Asymmetry	0.728		
Theta	79.9°		

#### XY profile & fitting parameters :

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





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



Parameters:

A = 1458.894 (brightness)

B = 133.414 (background)

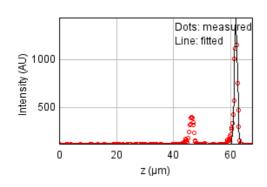
a = 0.803 px

b = 0.066 px

c = 0.444 px

xc = 5.876 pxyc = 6.403 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 630871.748

Standard deviation: 45.33163

R^2: 0.91857 Parameters: a = 126.34717b = 1437.83797

c = 61.87864

## Bead 2825 (Rejected)

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -45.1 um (x), 37.8 um (y), 48.4 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	66.5 nm	68.7 nm	223 nm
max	196 nm	203 nm	223 nm
Z	1.25 um	1.26 um	885 nm
Asymmetry	0.339		
Theta	-84.8°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = -0.000$$



Parameters:

A = -124.404 (brightness) B = 208.860 (background)

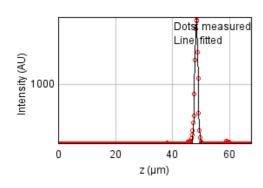
a = 30.073 px

b = -3.082 px

c = -3.204 px

xc = 11.946 pxyc = 3.235 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 95240.0709

Standard deviation: 17.61330

R^2: 0.99355 Parameters:

a = 115.99944

b = 1994.19085

c = 48.42811

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 38.6 um (x), 21.8 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	513 nm	531 nm	223 nm
max	856 nm	885 nm	223 nm
Z	1.21 um	1.21 um	885 nm
Asymmetry	0.6		
Theta	78.0°		

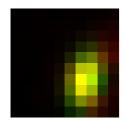
#### XY profile & fitting parameters :

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





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



xc = 6.411 pxyc = 6.048 px

Parameters:

A = 900.720 (brightness)

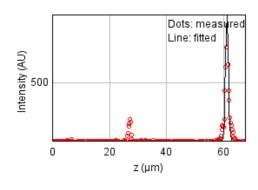
B = 131.322 (background)

a = 0.495 px

b = 0.066 px

c = 0.197 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 205717.594

Standard deviation: 25.88609

R^2: 0.93006 Parameters: a = 119.66361 b = 944.44417 c = 61.21272

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

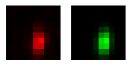
Coordinates: -160 um (x), 2.35 um (y), 61.1 um (z)

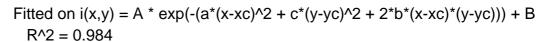
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	383 nm	396 nm	223 nm
max	690 nm	713 nm	223 nm
Z	1.74 um	1.75 um	885 nm
Asymmetry	0.555		
Theta	85.5°		

#### XY profile & fitting parameters :

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







Parameters:

A = 658.984 (brightness)

B = 118.435 (background)

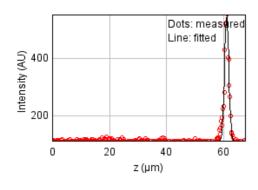
a = 0.913 px

b = 0.050 px

c = 0.286 px

xc = 5.581 pxyc = 6.298 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 33923.4951

Standard deviation: 10.51190

R^2: 0.97053 Parameters: a = 112.47432 b = 553.90583 c = 61.12456 d = 0.74040

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

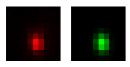
Coordinates: -141 um (x), -9.52 um (y), 61.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	382 nm	395 nm	223 nm
max	538 nm	556 nm	223 nm
Z	1.21 um	1.22 um	885 nm
Asymmetry	0.709		
Theta	-84.1°		

#### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.984$ 



Parameters:

A = 963.113 (brightness)

B = 124.342 (background)

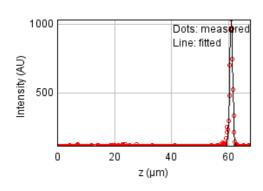
a = 0.916 px

b = -0.046 px

c = 0.468 px

xc = 5.198 pxyc = 6.272 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 42448.8336

Standard deviation: 11.75882

R^2: 0.98772 Parameters: a = 112.20309

b = 1031.14478

c = 60.95399

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

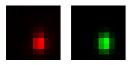
Coordinates: -123 um (x), -22.5 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	380 nm	392 nm	223 nm
max	527 nm	544 nm	223 nm
Z	1.14 um	1.14 um	885 nm
Asymmetry	0.721		
Theta	87.5°		

#### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.985$ 



Parameters:

A = 1256.545 (brightness)

B = 125.475 (background)

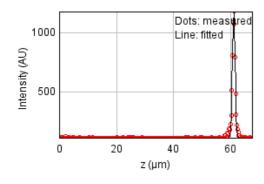
a = 0.931 px

b = 0.020 px

c = 0.485 px

xc = 5.699 pxyc = 6.411 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 43574.0900

Standard deviation: 11.91365

R^2: 0.98995 Parameters: a = 113.56144 b = 1176.12190 c = 61.15382

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 43.4 um (x), -72.3 um (y), 61.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	383 nm	395 nm	223 nm
max	719 nm	743 nm	223 nm
Z	1.2 um	1.2 um	885 nm
Asymmetry	0.532		
Theta	60.6°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.981$$



Parameters:

 $A = 1511.263 \quad (brightness)$ 

B = 129.126 (background)

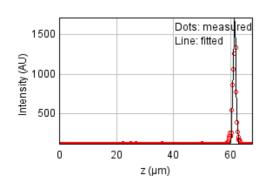
a = 0.759 px

b = 0.281 px

c = 0.418 px

xc = 6.063 pxyc = 5.840 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 240860.867

Standard deviation: 28.01005

R^2: 0.97686 Parameters:

a = 116.81859

b = 1714.45666

c = 61.42441

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

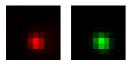
Coordinates: 158 um (x), -91.1 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	444 nm	459 nm	223 nm
max	486 nm	502 nm	223 nm
Z	1.63 um	1.64 um	885 nm
Asymmetry	0.915		
Theta	-46.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 1422.931 (brightness)

B = 125.776 (background)

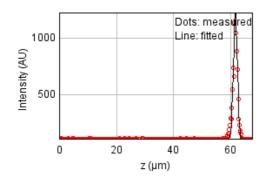
a = 0.627 px

b = -0.056 px

c = 0.622 px

xc = 5.156 pxyc = 6.286 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 236214.428

Standard deviation: 27.73857

R^2: 0.96640 Parameters:

a = 110.11392

b = 1234.42160

c = 61.70697

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -89.2 um (x), 95.7 um (y), 62.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	470 nm	486 nm	223 nm
max	536 nm	555 nm	223 nm
Z	1.2 um	1.21 um	885 nm
Asymmetry	0.876		
Theta	64.2°		

#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.983$$



Parameters:

A = 2893.336 (brightness)

B = 138.053 (background)

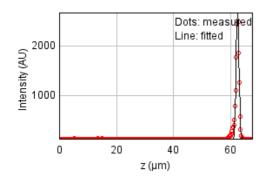
a = 0.581 px

b = 0.055 px

c = 0.493 px

xc = 6.578 pxyc = 5.790 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 300093.010

Standard deviation: 31.26502

R^2: 0.98861 Parameters: a = 119.36863 b = 2668.95686 c = 62.48153

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -20.0 um (x), 94.4 um (y), 62.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	409 nm	423 nm	223 nm
max	572 nm	592 nm	223 nm
Z	1.27 um	1.27 um	885 nm
Asymmetry	0.714		
Theta	74.5°		

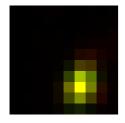
#### XY profile & fitting parameters :

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





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



Parameters:

A = 1853.811 (brightness)

B = 138.479 (background)

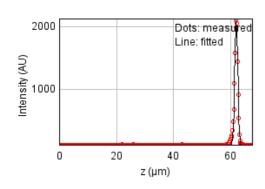
a = 0.775 px

b = 0.101 px

c = 0.438 px

xc = 6.085 pxyc = 6.804 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 124924.907

Standard deviation: 20.17230

R^2: 0.99274 Parameters: a = 116.69101 b = 2131.53403 c = 62.00338

## Bead 2834 (Rejected)

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -53.1 um (x), 89.4 um (y), 62.3 um (z)

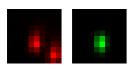
Corresponding bead: Not found

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

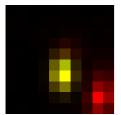
FWHM	Non corrected	Corrected	Theoretical
min	325 nm	336 nm	223 nm
max	501 nm	518 nm	223 nm
Z	2.55 um	2.56 um	885 nm
Asymmetry	0.65		
Theta	-89.7°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.523$$



Parameters:

A = 1873.399 (brightness)

B = 242.462 (background)

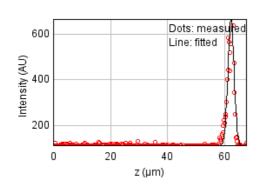
a = 1.267 px

b = -0.003 px

c = 0.535 px

xc = 4.780 pxyc = 5.786 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 176008.458

Standard deviation: 23.94405

R^2: 0.93394 Parameters:

a = 113.36086

b = 663.56937

c = 62.29759

d = 1.08150

## Bead 2835 (Rejected)

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -52.6 um (x), 89.1 um (y), 62.3 um (z)

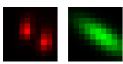
Corresponding bead: Not found

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

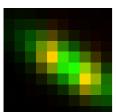
FWHM	Non corrected	Corrected	Theoretical
min	585 nm	604 nm	223 nm
max	1.62 um	1.67 um	223 nm
Z	2.55 um	2.56 um	885 nm
Asymmetry	0.362		
Theta	-33.4°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.591$$



Parameters:

A = 1018.109 (brightness) B = 123.829 (background)

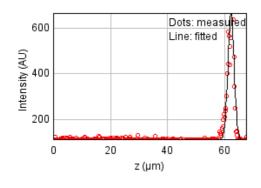
a = 0.155 px

b = -0.157 px

c = 0.289 px

xc = 5.765 pxyc = 4.908 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 176008.458

Standard deviation: 23.94405

R^2: 0.93394 Parameters:

a = 113.36086

b = 663.56937

c = 62.29759

d = 1.08150

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 20.5 um (x), 88.3 um (y), 61.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	383 nm	396 nm	223 nm
max	579 nm	599 nm	223 nm
Z	1.38 um	1.39 um	885 nm
Asymmetry	0.662		
Theta	75.3°		

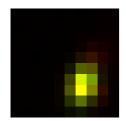
#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.958$$



Parameters:

A = 1812.068 (brightness)

B = 135.601 (background)

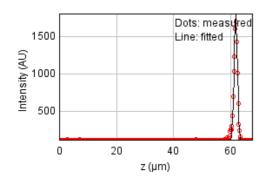
a = 0.881 px

b = 0.126 px

c = 0.434 px

xc = 6.190 pxyc = 6.504 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 114264.430

Standard deviation: 19.29240

R^2: 0.99129 Parameters: a = 114.84336b = 1800.08289c = 61.82350

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 25.8 um (x), 88.5 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	397 nm	410 nm	223 nm
max	772 nm	798 nm	223 nm
Z	1.34 um	1.34 um	885 nm
Asymmetry	0.514		
Theta	72.6°		

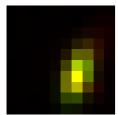
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.956$$



Parameters:

A = 1133.180 (brightness)

B = 130.219 (background)

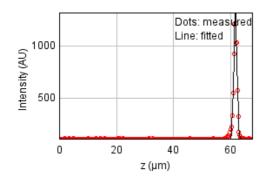
a = 0.797 px

b = 0.179 px

c = 0.281 px

xc = 6.062 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: 93337.7114

Standard deviation: 17.43650

R^2: 0.98612 Parameters: a = 112.55295

b = 1333.89203

c = 61.69638

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

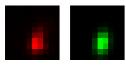
Coordinates: -15.3 um (x), 88.4 um (y), 62.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	396 nm	410 nm	223 nm
max	638 nm	659 nm	223 nm
Z	1.56 um	1.56 um	885 nm
Asymmetry	0.621		
Theta	80.6°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.967$ 



Parameters:

A = 1618.148 (brightness)

B = 134.860 (background)

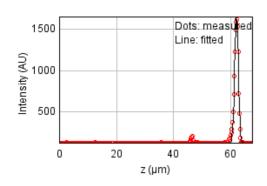
a = 0.841 px

b = 0.084 px

c = 0.344 px

xc = 5.387 pxyc = 6.387 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 138638.813

Standard deviation: 21.25070

R^2: 0.98879 Parameters: a = 116.20597 b = 1657.70631 c = 62.09288

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 37.0 um (x), 87.2 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	380 nm	393 nm	223 nm
max	572 nm	591 nm	223 nm
Z	1.43 um	1.44 um	885 nm
Asymmetry	0.664		
Theta	76.1°		

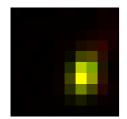
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.951$$



Parameters:

A = 1174.868 (brightness)

B = 130.378 (background)

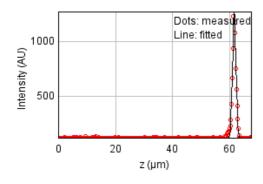
a = 0.899 px

b = 0.121 px

c = 0.440 px

xc = 6.280 pxyc = 5.673 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 47956.0506

Standard deviation: 12.49835

R^2: 0.99256 Parameters: a = 114.96930 b = 1277.12831 c = 61.65122

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 63.5 um (x), 85.3 um (y), 61.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	440 nm	455 nm	223 nm
max	874 nm	904 nm	223 nm
Z	1.57 um	1.57 um	885 nm
Asymmetry	0.503		
Theta	76.3°		

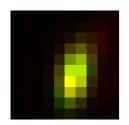
## XY profile & fitting parameters :

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





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



Parameters:

A = 647.529 (brightness)

B = 129.436 (background)

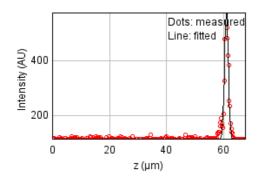
a = 0.664 px

b = 0.119 px

c = 0.204 px

xc = 5.422 pxyc = 5.486 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 46729.2200

Standard deviation: 12.33744

R^2: 0.96082 Parameters:

a = 112.32674

b = 582.74998

c = 61.03984

# Bead 2841 (Rejected)

Date: Mon Oct 17 13:30:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 11.2 um (x), 74.1 um (y), 60.0 um (z)

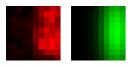
Corresponding bead: Not found

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

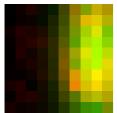
FWHM	Non corrected	Corrected	Theoretical
min	1.06 um	1.09 um	223 nm
max	2.51 um	2.6 um	223 nm
Z	1.31 um	1.32 um	885 nm
Asymmetry	0.421		
Theta	-89.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 98.517 (brightness)

B = 115.936 (background)

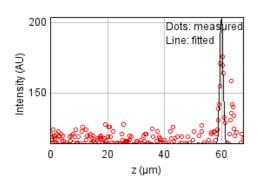
a = 0.120 px

b = -0.001 px

c = 0.021 px

xc = 7.896 pxyc = 4.205 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16785.4155

Standard deviation: 7.39430

R^2: 0.67857 Parameters:

a = 113.94175

b = 204.03918

c = 59.99933

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 261 nm (x), 73.0 um (y), 61.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	381 nm	394 nm	223 nm
max	632 nm	654 nm	223 nm
Z	1.17 um	1.18 um	885 nm
Asymmetry	0.603		
Theta	78.5°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.958$$



Parameters:

A = 1589.700 (brightness)

B = 129.455 (background)

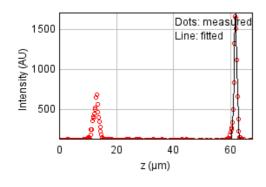
a = 0.899 px

b = 0.114 px

c = 0.359 px

xc = 6.186 pxyc = 6.236 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 1870981.14

Standard deviation: 78.06665

R^2: 0.83931 Parameters:

a = 134.57327

b = 1716.53298

c = 61.76326

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 78.3 um (x), 68.3 um (y), 61.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	387 nm	400 nm	223 nm
max	632 nm	653 nm	223 nm
Z	1.32 um	1.33 um	885 nm
Asymmetry	0.613		
Theta	72.6°		

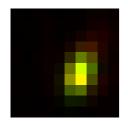
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.940$$



Parameters:

A = 998.309 (brightness)

B = 131.262 (background)

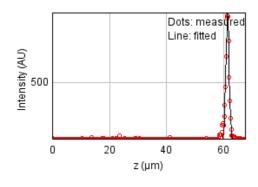
a = 0.844 px

b = 0.159 px

c = 0.386 px

xc = 5.907 pxyc = 5.475 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 47500.5075

Standard deviation: 12.43884

R^2: 0.98578 Parameters: a = 112.75762 b = 978.79890 c = 61.40993 d = 0.56130

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 4.94 um (x), 67.1 um (y), 62.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	390 nm	403 nm	223 nm
max	703 nm	727 nm	223 nm
Z	1.37 um	1.38 um	885 nm
Asymmetry	0.555		
Theta	75.1°		

## XY profile & fitting parameters :

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





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



Parameters:

 $A = 1986.836 \quad (brightness)$ 

B = 140.108 (background)

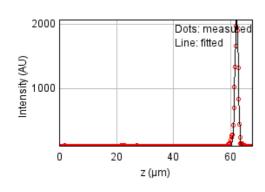
a = 0.841 px

b = 0.152 px

c = 0.312 px

xc = 6.457 pxyc = 5.902 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 201608.208

Standard deviation: 25.62624

R^2: 0.98877 Parameters: a = 116.34092 b = 2089.26161 c = 62.13469

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

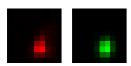
Coordinates: 47.9 um (x), 62.3 um (y), 62.1 um (z)

Corresponding bead: Not found

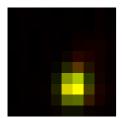
	T		_
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	424 nm	223 nm
max	502 nm	519 nm	223 nm
Z	1.14 um	1.15 um	885 nm
Asymmetry	0.816		
Theta	79.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 1560.017 (brightness)

B = 130.869 (background)

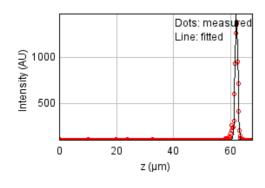
a = 0.789 px

b = 0.049 px

c = 0.541 px

xc = 5.644 pxyc = 6.752 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 95167.9203

Standard deviation: 17.60662

R^2: 0.98643 Parameters: a = 114.29034 b = 1462.56157

c = 62.06512d = 0.48474

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

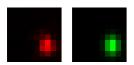
Coordinates: -77.9 um (x), 59.3 um (y), 61.7 um (z)

Corresponding bead: Not found

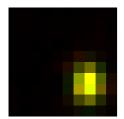
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	446 nm	223 nm
max	551 nm	569 nm	223 nm
Z	1.58 um	1.58 um	885 nm
Asymmetry	0.784		
Theta	89.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 1210.932 (brightness)

B = 119.214 (background)

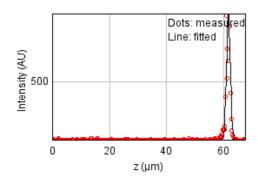
a = 0.721 px

b = 0.001 px

c = 0.443 px

xc = 6.830 pxyc = 6.494 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 568523.613

Standard deviation: 43.03334

R^2: 0.86734 Parameters: a = 112.31335 b = 957.22827

c = 61.71071

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 48.9 um (x), 59.0 um (y), 61.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	412 nm	426 nm	223 nm
max	531 nm	549 nm	223 nm
Z	1.5 um	1.51 um	885 nm
Asymmetry	0.776		
Theta	72.0°		

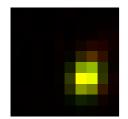
## XY profile & fitting parameters :

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





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



Parameters:

A = 1416.805 (brightness)

B = 126.854 (background)

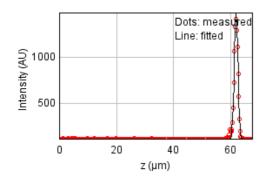
a = 0.760 px

b = 0.092 px

c = 0.506 px

xc = 6.498 pxyc = 5.894 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 50512.7321

Standard deviation: 12.82718

R^2: 0.99465 Parameters: a = 114.18231 b = 1490.34000 c = 61.94948

# Bead 2848 (Rejected)

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 29.5 um (x), 49.1 um (y), 62.3 um (z)

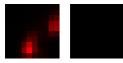
Corresponding bead: Not found

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

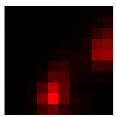
FWHM	Non corrected	Corrected	Theoretical
min	474 nm	490 nm	223 nm
max	3.44 um	3.56 um	223 nm
Z	1.2 um	1.2 um	885 nm
Asymmetry	0.138		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.548$$



Parameters:

A = 645.227 (brightness) B = 130.685 (background)

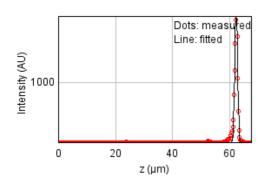
a = 0.294 px

b = 0.304 px

c = 0.291 px

xc = 6.035 pxyc = 5.981 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 153661.773

Standard deviation: 22.37246

R^2: 0.98939 Parameters:

a = 117.45895

b = 2012.69224

c = 62.34691

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 118 um (x), 44.0 um (y), 61.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	389 nm	402 nm	223 nm
max	493 nm	509 nm	223 nm
Z	1.24 um	1.25 um	885 nm
Asymmetry	0.789		
Theta	82.8°		

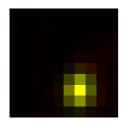
## XY profile & fitting parameters :

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





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



Parameters:

A = 1031.975 (brightness)

B = 125.276 (background)

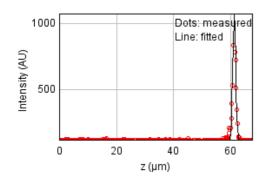
a = 0.882 px

b = 0.041 px

c = 0.558 px

xc = 5.933 pxyc = 6.989 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 90337.9034

Standard deviation: 17.15402

R^2: 0.97728 Parameters: a = 112.68789 b = 1082.84433

c = 61.31874d = 0.52689

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

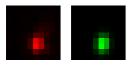
Coordinates: 94.0 um (x), 43.2 um (y), 61.5 um (z)

Corresponding bead: Not found

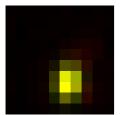
FWHM	Non corrected	Corrected	Theoretical
min	383 nm	396 nm	223 nm
max	518 nm	536 nm	223 nm
Z	1.35 um	1.36 um	885 nm
Asymmetry	0.739		
Theta	82.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 1207.786 (brightness)

B = 127.688 (background)

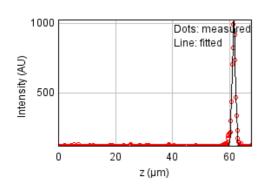
a = 0.909 px

b = 0.055 px

c = 0.507 px

xc = 5.294 pxyc = 6.546 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 41226.9878

Standard deviation: 11.58835

R^2: 0.98930 Parameters: a = 113.93673 b = 1034.53409 c = 61.51720

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 67.0 um (x), 42.9 um (y), 62.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	407 nm	421 nm	223 nm
max	580 nm	600 nm	223 nm
Z	1.34 um	1.35 um	885 nm
Asymmetry	0.702		
Theta	76.5°		

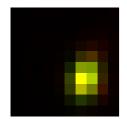
# XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.956$$



Parameters:

 $A = 1571.772 \quad (brightness)$ 

B = 130.695 (background)

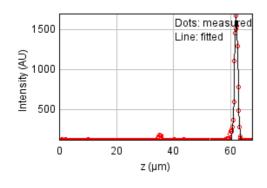
a = 0.786 px

b = 0.093 px

c = 0.421 px

xc = 6.366 pxyc = 6.009 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 127625.508

Standard deviation: 20.38917

R^2: 0.98876 Parameters: a = 115.60338 b = 1703.73876 c = 61.98024

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 79.4 um (x), 42.4 um (y), 61.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	412 nm	426 nm	223 nm
max	574 nm	594 nm	223 nm
Z	1.09 um	1.1 um	885 nm
Asymmetry	0.718		
Theta	74.5°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.972$$



Parameters:

A = 1248.412 (brightness)

B = 125.302 (background)

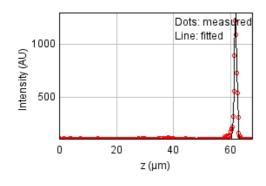
a = 0.763 px

b = 0.099 px

c = 0.434 px

xc = 5.893 pxyc = 6.235 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 58747.1550

Standard deviation: 13.83325

R^2: 0.98843 Parameters: a = 116.63288b = 1290.29175

c = 61.78269

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

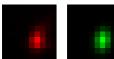
Coordinates: -2.85 um (x), 42.0 um (y), 62.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	434 nm	448 nm	223 nm
max	607 nm	627 nm	223 nm
Z	1.22 um	1.23 um	885 nm
Asymmetry	0.715		
Theta	81.4°		

## XY profile & fitting parameters :

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





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



Parameters:

A = 3249.701 (brightness)

B = 157.513 (background)

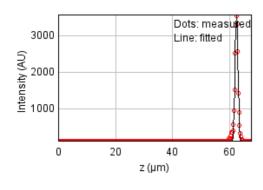
a = 0.706 px

b = 0.052 px

c = 0.372 px

xc = 6.023 pxyc = 6.092 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 293266.858

Standard deviation: 30.90739

R^2: 0.99401 Parameters: a = 117.88772b = 3574.32534c = 62.47671

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 87.8 um (x), 39.5 um (y), 61.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	475 nm	491 nm	223 nm
max	726 nm	750 nm	223 nm
Z	1.43 um	1.44 um	885 nm
Asymmetry	0.655		
Theta	70.3°		

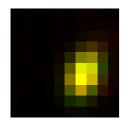
## XY profile & fitting parameters :

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





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



Parameters:

A = 946.716 (brightness)

B = 121.385 (background)

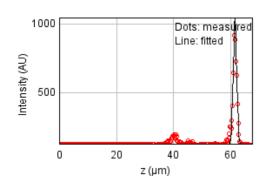
a = 0.555 px

b = 0.107 px

c = 0.293 px

xc = 6.303 pxyc = 5.519 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 151774.399

Standard deviation: 22.23464

R^2: 0.96424 Parameters: a = 119.57747 b = 1049.21548 c = 61.56175

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 62.7 um (x), 35.2 um (y), 62.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	423 nm	437 nm	223 nm
max	482 nm	498 nm	223 nm
Z	1.15 um	1.16 um	885 nm
Asymmetry	0.878		
Theta	73.5°		

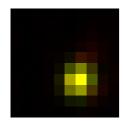
## XY profile & fitting parameters :

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





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



Parameters:

A = 1888.377 (brightness)

B = 135.295 (background)

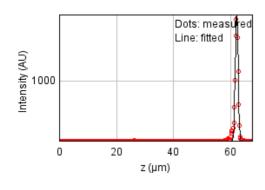
a = 0.736 px

b = 0.047 px

c = 0.592 px

xc = 5.792 pxyc = 6.085 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 109945.280

Standard deviation: 18.92427

R^2: 0.99207 Parameters: a = 115.27587

b = 2009.07072

c = 62.15928

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 38.6 um (x), 21.8 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	497 nm	514 nm	223 nm
max	831 nm	859 nm	223 nm
Z	1.21 um	1.21 um	885 nm
Asymmetry	0.599		
Theta	78.4°		

## XY profile & fitting parameters :

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





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



Parameters:

A = 904.381 (brightness)

B = 143.499 (background)

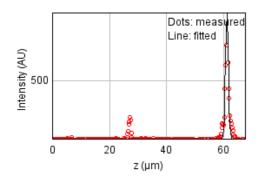
a = 0.529 px

b = 0.069 px

c = 0.209 px

xc = 5.401 pxyc = 6.057 px

# Z profile & fitting parameters:



Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 205717.594

Standard deviation: 25.88609

R^2: 0.93006 Parameters: a = 119.66361 b = 944.44417 c = 61.21272

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

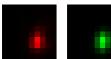
Coordinates: 20.5 um (x), 8.07 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	391 nm	404 nm	223 nm
max	541 nm	560 nm	223 nm
Z	1.15 um	1.15 um	885 nm
Asymmetry	0.722		
Theta	82.4°		

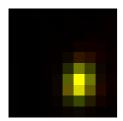
## XY profile & fitting parameters :

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





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



Parameters:

A = 1928.878 (brightness)

B = 131.783 (background)

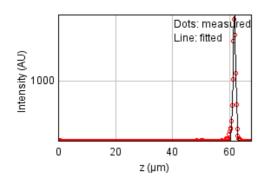
a = 0.871 px

b = 0.055 px

c = 0.465 px

xc = 6.047 pxyc = 6.303 px

## Z profile & fitting parameters:



Fitted on y = a +  $(b-a)*exp(-(x-c)^2/(2*d^2)$ Sum of residuals squared: 114991.007

Standard deviation: 19.35364

R^2: 0.99167 Parameters: a = 116.81908b = 2007.88000c = 61.72106

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

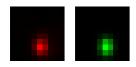
Coordinates: 129 um (x), -8.56 um (y), 61.7 um (z)

Corresponding bead: Not found

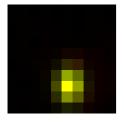
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	413 nm	223 nm
max	522 nm	540 nm	223 nm
Z	1.3 um	1.31 um	885 nm
Asymmetry	0.765		
Theta	89.9°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.982$ 



Parameters:

A = 1383.982 (brightness)

B = 127.173 (background)

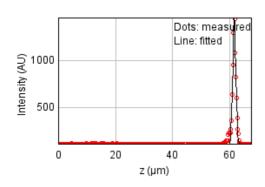
a = 0.841 px

b = 0.000 px

c = 0.492 px

xc = 5.229 pxyc = 6.927 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 100104.052

Standard deviation: 18.05746

R^2: 0.98743 Parameters: a = 113.66086 b = 1462.81390 c = 61.66900

# Bead 2859 (Rejected)

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: -38.9 um (x), -42.9 um (y), 60.0 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	1.68 um	1.69 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

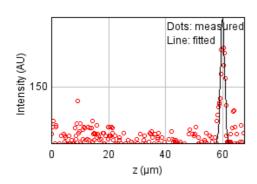
(red: the original data, green: the fit, yellow: the two merged)



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: 15582.1277

Standard deviation: 7.12433

R^2: 0.71448 Parameters: a = 112.54885 b = 196.42864 c = 60.00081

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 136 um (x), -44.2 um (y), 61.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	408 nm	422 nm	223 nm
max	477 nm	493 nm	223 nm
Z	1.26 um	1.26 um	885 nm
Asymmetry	0.855		
Theta	80.1°		

# XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.984$$



Parameters:

A = 1706.011 (brightness)

B = 129.085 (background)

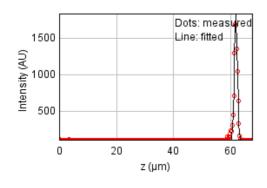
a = 0.801 px

b = 0.037 px

c = 0.597 px

xc = 6.043 pxyc = 5.807 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 93030.8648

Standard deviation: 17.40782

R^2: 0.99256 Parameters: a = 112.22365b = 1834.24235c = 61.86208

Date: Mon Oct 17 13:30:08 PDT 2022

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

Frame size: 10 pixels

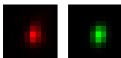
Coordinates: -24.8 um (x), -91.3 um (y), 61.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	392 nm	405 nm	223 nm
max	561 nm	580 nm	223 nm
Z	1.26 um	1.27 um	885 nm
Asymmetry	0.698		
Theta	81.3°		

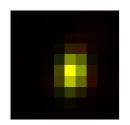
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.977$$



Parameters:

A = 1595.640 (brightness)

B = 129.726 (background)

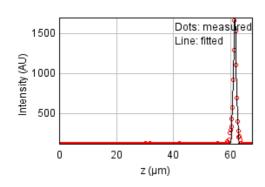
a = 0.864 px

b = 0.067 px

c = 0.436 px

xc = 5.207 pxyc = 5.134 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 107921.962

Standard deviation: 18.74933

R^2: 0.98995 Parameters:

a = 115.03050

b = 1706.77527

c = 61.53422

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -11.7 um (x), -91.4 um (y), 61.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	375 nm	388 nm	223 nm
max	614 nm	635 nm	223 nm
Z	1.14 um	1.15 um	885 nm
Asymmetry	0.611		
Theta	87.5°		

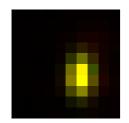
# XY profile & fitting parameters :

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





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



Parameters:

A = 1487.122 (brightness)

B = 130.832 (background)

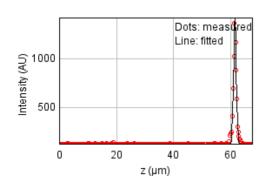
a = 0.951 px

b = 0.025 px

c = 0.357 px

xc = 5.896 pxyc = 5.585 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 65550.2325

Standard deviation: 14.61228

R^2: 0.99024 Parameters: a = 115.49597

b = 1435.92328

c = 61.54940

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -62.7 um (x), 93.2 um (y), 62.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	385 nm	398 nm	223 nm
max	561 nm	580 nm	223 nm
Z	1.1 um	1.11 um	885 nm
Asymmetry	0.686		
Theta	86.3°		

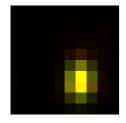
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.981$$



Parameters:

A = 2298.665 (brightness)

B = 138.801 (background)

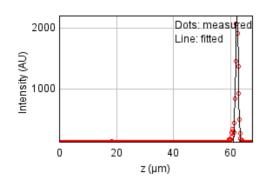
a = 0.905 px

b = 0.031 px

c = 0.429 px

xc = 5.920 pxyc = 6.420 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 156766.011

Standard deviation: 22.59731

R^2: 0.99034 Parameters: a = 117.11191b = 2205.64840

c = 62.25214

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 31.9 um (x), 81.2 um (y), 61.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	404 nm	418 nm	223 nm
max	540 nm	558 nm	223 nm
Z	1.19 um	1.19 um	885 nm
Asymmetry	0.749		
Theta	72.9°		

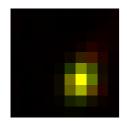
## XY profile & fitting parameters :

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





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



Parameters:

A = 1261.131 (brightness)

B = 129.618 (background)

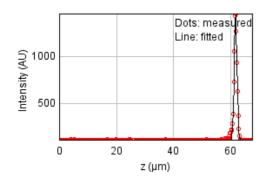
a = 0.789 px

b = 0.101 px

c = 0.492 px

xc = 6.001 pxyc = 6.111 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 51695.7989

Standard deviation: 12.97653

R^2: 0.99275 Parameters: a = 114.00745 b = 1452.28870 c = 61.77853

# Bead 2865 (Rejected)

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -80.7 um (x), 78.0 um (y), 61.6 um (z)

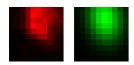
Corresponding bead: Not found

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

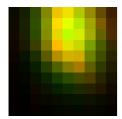
FWHM	Non corrected	Corrected	Theoretical
min	1.04 um	1.08 um	223 nm
max	1.49 um	1.54 um	223 nm
Z	3.5 um	3.51 um	885 nm
Asymmetry	0.701		
Theta	-80.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 653.064 (brightness)

B = 102.100 (background)

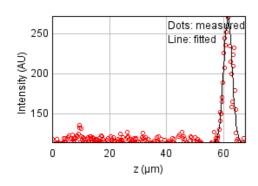
a = 0.122 px

b = -0.010 px

c = 0.062 px

xc = 5.162 pxyc = 1.557 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29002.9143

Standard deviation: 9.71967

R^2: 0.90583 Parameters:

a = 113.32340

b = 272.32022

c = 61.55017

d = 1.48514

# Bead 2866 (Rejected)

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 11.3 um (x), 73.2 um (y), 60.0 um (z)

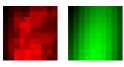
Corresponding bead: Not found

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

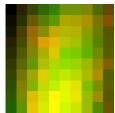
FWHM	Non corrected	Corrected	Theoretical
min	2.04 um	2.11 um	223 nm
max	6.32 um	6.54 um	223 nm
Z	1.31 um	1.32 um	885 nm
Asymmetry	0.323		
Theta	82.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.792$$



A = 143.936 (brightness)

B = 70.107 (background)

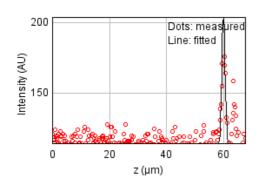
a = 0.032 px

b = 0.004 px

c = 0.004 px

xc = 4.214 pxyc = 10.445 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16785.4155

Standard deviation: 7.39430

R^2: 0.67857 Parameters:

a = 113.94175

b = 204.03918

c = 59.99933

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 71.0 um (x), 69.5 um (y), 61.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	425 nm	439 nm	223 nm
max	624 nm	645 nm	223 nm
Z	1.13 um	1.14 um	885 nm
Asymmetry	0.681		
Theta	72.7°		

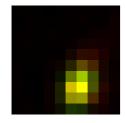
## XY profile & fitting parameters :

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





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



Parameters:

A = 765.239 (brightness)

B = 124.817 (background)

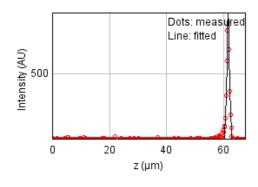
a = 0.707 px

b = 0.113 px

c = 0.380 px

xc = 5.727 pxyc = 6.912 px

# Z profile & fitting parameters:



Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 24571.3024

Standard deviation: 8.94633

R^2: 0.98851 Parameters: a = 113.84779 b = 862.59440 c = 61.62298

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 41.9 um (x), 65.2 um (y), 62.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	427 nm	442 nm	223 nm
max	528 nm	546 nm	223 nm
Z	1.39 um	1.39 um	885 nm
Asymmetry	0.81		
Theta	83.4°		

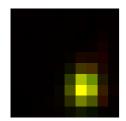
## XY profile & fitting parameters :

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





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



Parameters:

A = 1270.694 (brightness)

B = 124.842 (background)

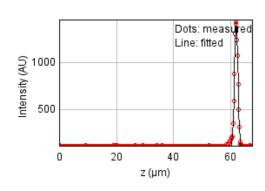
a = 0.731 px

b = 0.029 px

c = 0.485 px

xc = 6.270 pxyc = 6.782 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 52677.9228

Standard deviation: 13.09921

R^2: 0.99370 Parameters: a = 113.50934

b = 1457.49887

c = 61.97777

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

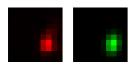
Coordinates: 36.5 um (x), 64.4 um (y), 62.1 um (z)

Corresponding bead: Not found

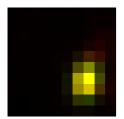
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	411 nm	223 nm
max	552 nm	570 nm	223 nm
Z	1.13 um	1.13 um	885 nm
Asymmetry	0.72		
Theta	80.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 1612.148 (brightness)

B = 127.540 (background)

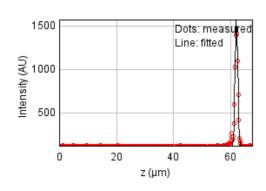
a = 0.839 px

b = 0.070 px

c = 0.453 px

xc = 6.759 pxyc = 6.232 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 67094.0459

Standard deviation: 14.78335

R^2: 0.99165 Parameters: a = 115.19599 b = 1570.14272

c = 62.05903

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 54.6 um (x), 60.4 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	395 nm	408 nm	223 nm
max	677 nm	700 nm	223 nm
Z	1.2 um	1.2 um	885 nm
Asymmetry	0.583		
Theta	70.6°		

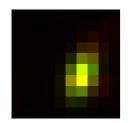
## XY profile & fitting parameters :

(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 = 933.823 (brightness)

B = 130.343 (background)

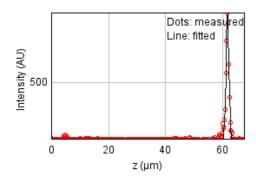
a = 0.799 px

b = 0.178 px

c = 0.356 px

xc = 5.976 pxyc = 5.533 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 51180.2207

Standard deviation: 12.91165

R^2: 0.98336 Parameters: a = 115.12302 b = 986.75117 c = 61.74289

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 48.9 um (x), 59.0 um (y), 61.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	410 nm	424 nm	223 nm
max	529 nm	547 nm	223 nm
Z	1.5 um	1.51 um	885 nm
Asymmetry	0.775		
Theta	72.0°		

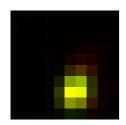
## XY profile & fitting parameters :

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





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



Parameters:

A = 1417.613 (brightness)

B = 129.930 (background)

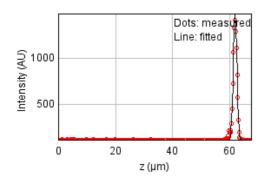
a = 0.768 px

b = 0.093 px

c = 0.510 px

xc = 5.498 pxyc = 6.895 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 50512.7321

Standard deviation: 12.82718

R^2: 0.99465 Parameters: a = 114.18231 b = 1490.34000 c = 61.94948

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

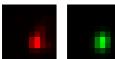
Coordinates: 52.3 um (x), 58.6 um (y), 62.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	400 nm	413 nm	223 nm
max	509 nm	526 nm	223 nm
Z	1.26 um	1.27 um	885 nm
Asymmetry	0.786		
Theta	80.3°		

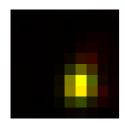
## XY profile & fitting parameters :

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





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



Parameters:

A = 1255.981 (brightness)

B = 128.740 (background)

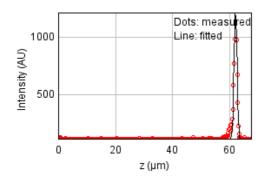
a = 0.830 px

b = 0.053 px

c = 0.528 px

xc = 5.906 pxyc = 6.422 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 91072.1617

Standard deviation: 17.22359

R^2: 0.98235 Parameters: a = 115.45600b = 1214.76848c = 62.09931

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

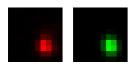
Coordinates: -32.9 um (x), 59.1 um (y), 62.6 um (z)

Corresponding bead: Not found

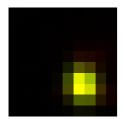
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	443 nm	223 nm
max	514 nm	531 nm	223 nm
Z	1.42 um	1.43 um	885 nm
Asymmetry	0.835		
Theta	-77.2°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.981$ 



Parameters:

A = 3582.078 (brightness)

B = 149.710 (background)

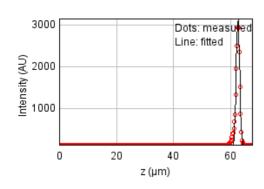
a = 0.719 px

b = -0.048 px

c = 0.519 px

xc = 6.361 pxyc = 6.587 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 447374.464

Standard deviation: 38.17389

R^2: 0.98986 Parameters: a = 117.22582

b = 3160.56622

c = 62.62997

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 25.4 um (x), 54.8 um (y), 62.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	390 nm	403 nm	223 nm
max	571 nm	590 nm	223 nm
Z	1.45 um	1.46 um	885 nm
Asymmetry	0.683		
Theta	73.8°		

## XY profile & fitting parameters :

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





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



Parameters:

A = 2126.248 (brightness)

B = 139.870 (background)

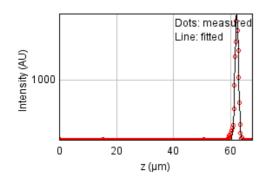
a = 0.845 px

b = 0.126 px

c = 0.448 px

xc = 5.442 pxyc = 5.956 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 123367.298

Standard deviation: 20.04614

R^2: 0.99272 Parameters: a = 115.86664 b = 1988.09360 c = 62.18436

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

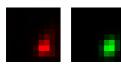
Coordinates: 41.7 um (x), 53.9 um (y), 62.2 um (z)

Corresponding bead: Not found

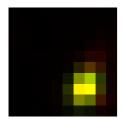
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	412 nm	223 nm
max	522 nm	539 nm	223 nm
Z	1.17 um	1.18 um	885 nm
Asymmetry	0.764		
Theta	66.7°		

## 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 = 1587.659 (brightness)

B = 129.006 (background)

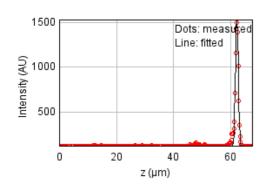
a = 0.790 px

b = 0.128 px

c = 0.548 px

xc = 6.570 pxyc = 6.831 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 91047.9090

Standard deviation: 17.22129

R^2: 0.98846 Parameters:

a = 116.73488

b = 1529.82651

c = 62.22557

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

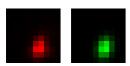
Coordinates: -10.9 um (x), 47.1 um (y), 62.3 um (z)

Corresponding bead: Not found

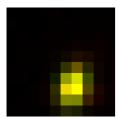
FWHM	Non corrected	Corrected	Theoretical
min	426 nm	440 nm	223 nm
max	598 nm	618 nm	223 nm
Z	1.2 um	1.2 um	885 nm
Asymmetry	0.712		
Theta	74.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.982$$



Parameters:

A = 1660.257 (brightness)

B = 126.209 (background)

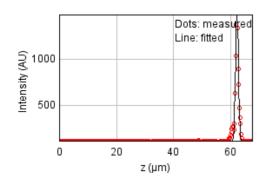
a = 0.714 px

b = 0.093 px

c = 0.401 px

xc = 5.647 pxyc = 6.754 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 180367.783

Standard deviation: 24.23875

R^2: 0.97633 Parameters: a = 116.67687 b = 1482.02130 c = 62.26865

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 81.7 um (x), 42.7 um (y), 61.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	405 nm	419 nm	223 nm
max	690 nm	713 nm	223 nm
Z	1.29 um	1.3 um	885 nm
Asymmetry	0.587		
Theta	73.3°		

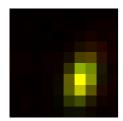
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.967$$



Parameters:

A = 736.740 (brightness)

B = 124.228 (background)

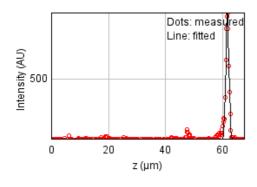
a = 0.774 px

b = 0.148 px

c = 0.327 px

xc = 6.150 pxyc = 6.017 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 60024.4894

Standard deviation: 13.98283

R^2: 0.97952 Parameters: a = 117.62367 b = 934.60869 c = 61.70499

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

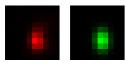
Coordinates: 6.24 um (x), 42.7 um (y), 62.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	447 nm	462 nm	223 nm
max	645 nm	666 nm	223 nm
Z	1.34 um	1.35 um	885 nm
Asymmetry	0.694		
Theta	-89.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 2769.263 (brightness)

B = 148.624 (background)

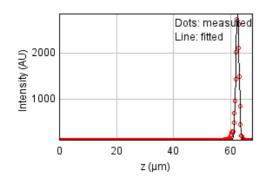
a = 0.671 px

b = -0.005 px

c = 0.323 px

xc = 5.375 pxyc = 5.927 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 237862.230

Standard deviation: 27.83515

R^2: 0.99294 Parameters: a = 116.91982 b = 2857.59788 c = 62.46694

# Bead 2879 (Rejected)

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -36.7 um (x), 42.3 um (y), 62.1 um (z)

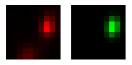
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

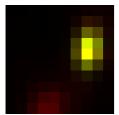
FWHM	Non corrected	Corrected	Theoretical
min	363 nm	375 nm	223 nm
max	562 nm	581 nm	223 nm
Z	1.33 um	1.33 um	885 nm
Asymmetry	0.646		
Theta	83.1°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.869$$



Parameters:

A = 1870.187 (brightness)

B = 195.487 (background)

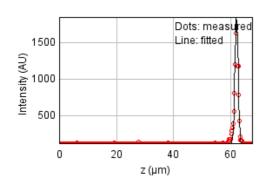
a = 1.009 px

b = 0.070 px

c = 0.433 px

xc = 7.169 pxyc = 3.532 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 254267.744

Standard deviation: 28.77905

R^2: 0.98136 Parameters:

a = 117.03991

b = 1859.56203

c = 62.09753

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 51.7 um (x), 35.2 um (y), 62.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	391 nm	404 nm	223 nm
max	531 nm	549 nm	223 nm
Z	1.3 um	1.3 um	885 nm
Asymmetry	0.736		
Theta	77.1°		

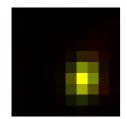
## XY profile & fitting parameters :

(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 = 1890.323 (brightness)

B = 140.682 (background)

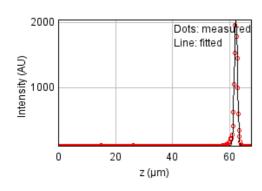
a = 0.859 px

b = 0.088 px

c = 0.496 px

xc = 6.141 pxyc = 6.062 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 80880.2934

Standard deviation: 16.23126

R^2: 0.99496 Parameters: a = 115.53535 b = 2040.96283 c = 62.23551

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 84.1 um (x), 35.3 um (y), 61.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	502 nm	519 nm	223 nm
max	822 nm	849 nm	223 nm
Z	1.55 um	1.56 um	885 nm
Asymmetry	0.611		
Theta	64.7°		

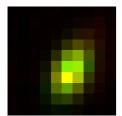
## XY profile & fitting parameters :

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





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



Parameters:

A = 629.991 (brightness)

B = 121.861 (background)

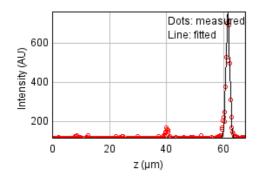
a = 0.472 px

b = 0.129 px

c = 0.260 px

xc = 5.359 pxyc = 5.442 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 145638.161

Standard deviation: 21.78053

R^2: 0.93675 Parameters: a = 114.81502 b = 763.58028 c = 61.53647

# Bead 2882 (Rejected)

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -23.5 um (x), 17.2 um (y), 62.7 um (z)

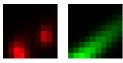
Corresponding bead: Not found

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

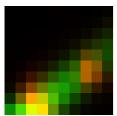
FWHM	Non corrected	Corrected	Theoretical
min	604 nm	624 nm	223 nm
max	10.7 um	11.1 um	223 nm
Z	1.46 um	1.47 um	885 nm
Asymmetry	0.056		
Theta	39.1°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.571$$



#### Parameters:

A = 74243.942 (brightness)

B = 150.224 (background)

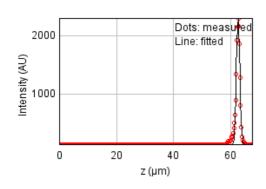
a = 0.147 px

b = 0.180 px

c = 0.222 px

xc = -42.948 pxyc = 45.875 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 275956.683

Standard deviation: 29.98136

R^2: 0.98833 Parameters:

a = 116.40896

b = 2312.14906

c = 62.67291

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

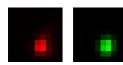
Coordinates: 74.9 um (x), 26.0 um (y), 62.2 um (z)

Corresponding bead: Not found

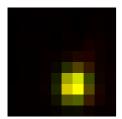
FWHM	Non corrected	Corrected	Theoretical
min	423 nm	438 nm	223 nm
max	495 nm	512 nm	223 nm
Z	1.21 um	1.21 um	885 nm
Asymmetry	0.856		
Theta	78.1°		

## 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 = 1548.682 (brightness)

B = 127.874 (background)

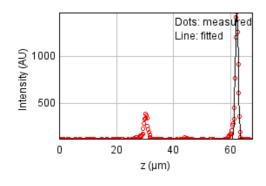
a = 0.740 px

b = 0.040 px

c = 0.557 px

xc = 5.680 pxyc = 6.640 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 489911.901

Standard deviation: 39.94752

R^2: 0.93700 Parameters:

a = 124.47547

b = 1471.92118

c = 62.18472

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 54.5 um (x), 17.4 um (y), 62.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	405 nm	419 nm	223 nm
max	530 nm	548 nm	223 nm
Z	1.16 um	1.16 um	885 nm
Asymmetry	0.765		
Theta	73.4°		

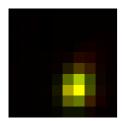
## XY profile & fitting parameters :

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





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



Parameters:

A = 1657.620 (brightness)

B = 128.977 (background)

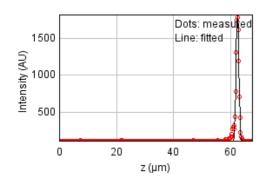
a = 0.789 px

b = 0.093 px

c = 0.505 px

xc = 5.792 pxyc = 6.785 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 123871.919

Standard deviation: 20.08710

R^2: 0.98898 Parameters: a = 116.06502 b = 1815.15193 c = 62.45014

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

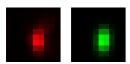
Coordinates: 8.24 um (x), -2.76 um (y), 61.6 um (z)

Corresponding bead: Not found

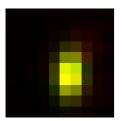
FWHM	Non corrected	Corrected	Theoretical
min	418 nm	432 nm	223 nm
max	701 nm	724 nm	223 nm
Z	1.31 um	1.31 um	885 nm
Asymmetry	0.597		
Theta	86.5°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.972$$



Parameters:

A = 1208.559 (brightness)

B = 131.445 (background)

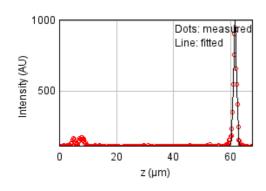
a = 0.765 px

b = 0.030 px

c = 0.275 px

xc = 5.446 pxyc = 5.561 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 83758.5033

Standard deviation: 16.51754

R^2: 0.97598 Parameters: a = 117.86953 b = 1003.19710 c = 61.59317

# Bead 2886 (Rejected)

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 48.4 um (x), -5.06 um (y), 47.8 um (z)

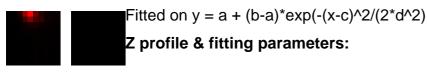
Corresponding bead: Not found

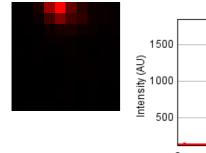
Reason of rejection: R or C parameter off limits.

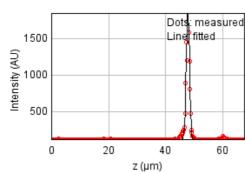
FWHM	Non corrected	Corrected	Theoretical
min	0	0	223 nm
max	0	0	223 nm
Z	1.36 um	1.36 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

## 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: 318508.316

Standard deviation: 32.21004

R^2: 0.97770 Parameters: a = 118.80753 b = 1879.29455 c = 47.84226

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

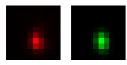
Coordinates: -115 um (x), -11.7 um (y), 61.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	369 nm	381 nm	223 nm
max	536 nm	554 nm	223 nm
Z	1.17 um	1.18 um	885 nm
Asymmetry	0.688		
Theta	-82.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 1371.221 (brightness)

B = 128.524 (background)

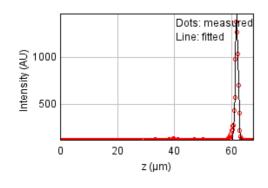
a = 0.979 px

b = -0.064 px

c = 0.475 px

xc = 5.137 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: 84202.4942

Standard deviation: 16.56126

R^2: 0.98824 Parameters: a = 115.35416 b = 1459.96639

c = 61.82575

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

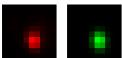
Coordinates: 126 um (x), -27.3 um (y), 61.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	420 nm	434 nm	223 nm
max	532 nm	550 nm	223 nm
Z	1.26 um	1.27 um	885 nm
Asymmetry	0.789		
Theta	-82.4°		

## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.984$$



Parameters:

A = 1142.088 (brightness)

B = 124.579 (background)

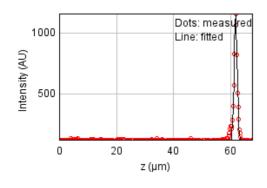
a = 0.755 px

b = -0.038 px

c = 0.479 px

xc = 5.374 pxyc = 6.176 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 80706.7749

Standard deviation: 16.21384

R^2: 0.98294 Parameters: a = 112.43701b = 1163.71866c = 61.79884

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

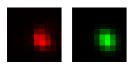
Coordinates: 122 um (x), -27.4 um (y), 61.9 um (z)

Corresponding bead: Not found

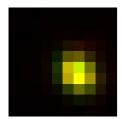
FWHM	Non corrected	Corrected	Theoretical
min	488 nm	504 nm	223 nm
max	584 nm	604 nm	223 nm
Z	1.38 um	1.39 um	885 nm
Asymmetry	0.835		
Theta	-51.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 867.540 (brightness)

B = 116.740 (background)

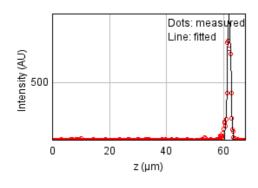
a = 0.498 px

b = -0.083 px

c = 0.460 px

xc = 5.863 pxyc = 5.535 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 183723.536

Standard deviation: 24.46320

R^2: 0.94951 Parameters: a = 112.73993 b = 981.46424

c = 61.94075

# Bead 2890 (Rejected)

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 53.4 um (x), -44.8 um (y), 62.5 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	644 nm	666 nm	223 nm
max	924 nm	955 nm	223 nm
Z	1.23 um	1.23 um	885 nm
Asymmetry	0.697		
Theta	49.1°		

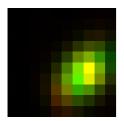
# XY profile & fitting parameters :

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





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



Parameters:

A = 1344.705 (brightness)

B = 138.466 (background)

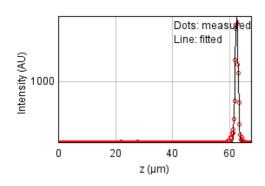
a = 0.252 px

b = 0.082 px

c = 0.228 px

xc = 6.580 pxyc = 5.476 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 169465.456

Standard deviation: 23.49478

R^2: 0.98783 Parameters:

a = 114.64618

b = 1948.70797

c = 62.52509

# Bead 2891 (Rejected)

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 149 um (x), -69.5 um (y), 61.8 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	1.25 um	1.26 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

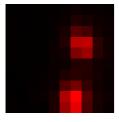
(red: the original data, green: the fit, yellow: the two merged)

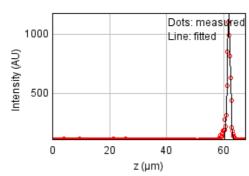




Fitted on y = a + (b-a)\*exp(-(x-c) $^2/(2*d^2)$ 

# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 87579.2415

Outri of residuals squared. 07579.24

Standard deviation: 16.89007

R^2: 0.98182 Parameters:

a = 111.93598

b = 1177.73496

c = 61.82515

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

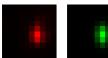
Coordinates: -150 um (x), -85.6 um (y), 61.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	370 nm	382 nm	223 nm
max	571 nm	590 nm	223 nm
Z	1.28 um	1.29 um	885 nm
Asymmetry	0.648		
Theta	-89.7°		

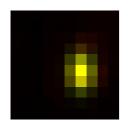
## XY profile & fitting parameters :

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





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



Parameters:

A = 1574.059 (brightness)

B = 140.614 (background)

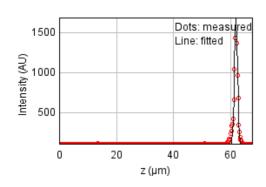
a = 0.982 px

b = -0.003 px

c = 0.412 px

xc = 6.020 pxyc = 5.129 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 137806.387

Standard deviation: 21.18681

R^2: 0.98744 Parameters:

a = 113.48422

b = 1708.75474

c = 61.90988

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

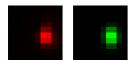
Coordinates: 73.6 um (x), -90.0 um (y), 62.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	404 nm	417 nm	223 nm
max	529 nm	547 nm	223 nm
Z	1.34 um	1.35 um	885 nm
Asymmetry	0.763		
Theta	-87.5°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.984$ 



Parameters:

A = 1680.208 (brightness)

B = 128.143 (background)

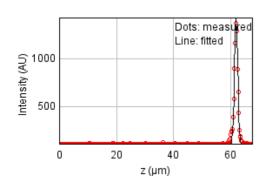
a = 0.823 px

b = -0.015 px

c = 0.480 px

xc = 6.495 pxyc = 5.240 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 74136.1289

Standard deviation: 15.53981

R^2: 0.99056 Parameters: a = 114.32610

b = 1435.93447

c = 61.95445

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -103 um (x), 95.8 um (y), 62.4 um (z)

Corresponding bead: Not found

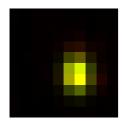
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	404 nm	223 nm
max	525 nm	543 nm	223 nm
Z	1.15 um	1.15 um	885 nm
Asymmetry	0.744		
Theta	-86.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.981$$



Parameters:

A = 1790.517 (brightness)

B = 129.606 (background)

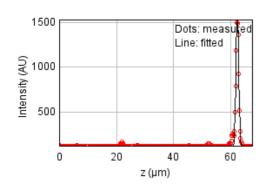
a = 0.877 px

b = -0.023 px

c = 0.488 px

xc = 5.731 pxyc = 5.537 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 100781.579

Standard deviation: 18.11846

R^2: 0.98731 Parameters:

a = 117.12899

b = 1548.97516

c = 62.39943

Date: Mon Oct 17 13:30:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -38.5 um (x), 92.8 um (y), 62.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	399 nm	413 nm	223 nm
max	534 nm	552 nm	223 nm
Z	1.15 um	1.16 um	885 nm
Asymmetry	0.748		
Theta	86.4°		

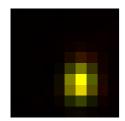
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.977$$



Parameters:

 $A = 1852.507 \quad (brightness)$ 

B = 134.083 (background)

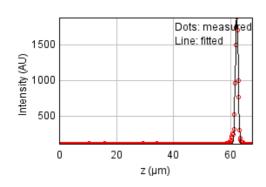
a = 0.841 px

b = 0.023 px

c = 0.473 px

xc = 5.910 pxyc = 6.294 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 111917.113

Standard deviation: 19.09321

R^2: 0.99087 Parameters: a = 115.55512 b = 1894.90793

c = 62.18551

Date: Mon Oct 17 13:30:10 PDT 2022

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

Frame size: 10 pixels

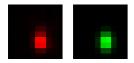
Coordinates: -79.7 um (x), 89.7 um (y), 62.5 um (z)

Corresponding bead : Not found

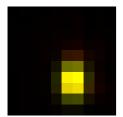
FWHM	Non corrected	Corrected	Theoretical
min	385 nm	398 nm	223 nm
max	534 nm	553 nm	223 nm
Z	1.11 um	1.12 um	885 nm
Asymmetry	0.721		
Theta	-89.7°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.985$ 



Parameters:

A = 2682.684 (brightness)

B = 136.830 (background)

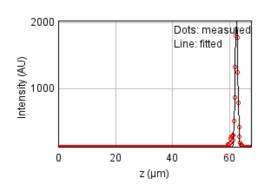
a = 0.904 px

b = -0.002 px

c = 0.470 px

xc = 5.533 pxyc = 6.338 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 135897.017

Standard deviation: 21.03952

R^2: 0.99004 Parameters:

a = 116.29492

b = 2022.88171

c = 62.46202

Date: Mon Oct 17 13:30:10 PDT 2022

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

Frame size: 10 pixels

Coordinates: -63.4 um (x), 88.8 um (y), 62.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	416 nm	223 nm
max	534 nm	552 nm	223 nm
Z	1.13 um	1.14 um	885 nm
Asymmetry	0.752		
Theta	79.2°		

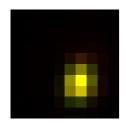
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.982$$



Parameters:

A = 1995.161 (brightness)

B = 129.954 (background)

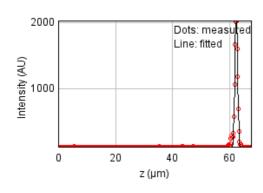
a = 0.818 px

b = 0.067 px

c = 0.483 px

xc = 5.844 pxyc = 6.234 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 112875.338

Standard deviation: 19.17478

R^2: 0.99219 Parameters: a = 116.50927b = 2063.88456c = 62.38113

Date: Mon Oct 17 13:30:10 PDT 2022

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

Frame size: 10 pixels

Coordinates: -17.3 um (x), 87.3 um (y), 62.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	466 nm	482 nm	223 nm
max	709 nm	733 nm	223 nm
Z	1.59 um	1.6 um	885 nm
Asymmetry	0.657		
Theta	83.8°		

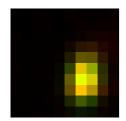
## XY profile & fitting parameters :

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





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



Parameters:

A = 916.755 (brightness)

B = 122.526 (background)

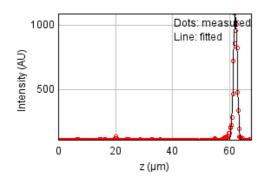
a = 0.614 px

b = 0.038 px

c = 0.271 px

xc = 6.325 pxyc = 5.968 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 165469.286

Standard deviation: 23.21611

R^2: 0.96765 Parameters: a = 114.77081

b = 1084.63186

c = 62.03392

Date: Mon Oct 17 13:30:10 PDT 2022

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

Frame size: 10 pixels

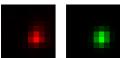
Coordinates: -21.1 um (x), 87.0 um (y), 62.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	426 nm	441 nm	223 nm
max	485 nm	501 nm	223 nm
Z	1.33 um	1.33 um	885 nm
Asymmetry	0.88		
Theta	71.4°		

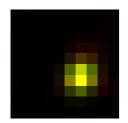
## XY profile & fitting parameters :

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





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



Parameters:

A = 1303.678 (brightness)

B = 127.643 (background)

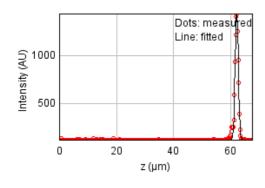
a = 0.721 px

b = 0.050 px

c = 0.588 px

xc = 5.990 pxyc = 5.665 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 61330.1076

Standard deviation: 14.13408

R^2: 0.99226 Parameters: a = 115.59783b = 1450.12645

c = 62.16937

Date: Mon Oct 17 13:30:10 PDT 2022

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

Frame size: 10 pixels

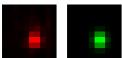
Coordinates: -164 um (x), 84.7 um (y), 61.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	401 nm	415 nm	223 nm
max	480 nm	497 nm	223 nm
Z	1.31 um	1.31 um	885 nm
Asymmetry	0.835		
Theta	88.5°		

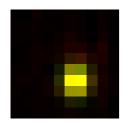
## XY profile & fitting parameters :

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





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



Parameters:

A = 516.388 (brightness)

B = 113.303(background)

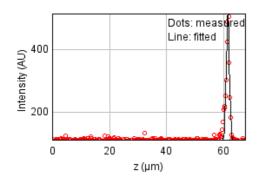
a = 0.834 px

b = 0.007 px

c = 0.582 px

xc = 5.514 pxyc = 6.051 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 37644.3249

Standard deviation: 11.07339

R^2: 0.94996 Parameters: a = 111.70716b = 517.61253c = 61.51476