Date: Mon Oct 17 13:27:57 PDT 2022

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

Frame size: 10 pixels

Coordinates: -61.6 um (x), 36.2 um (y), 8.51 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	405 nm	419 nm	223 nm
max	459 nm	474 nm	223 nm
Z	1.61 um	1.62 um	885 nm
Asymmetry	0.884		
Theta	20.3°		

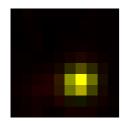
### XY profile & fitting parameters :

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





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



Parameters:

A = 785.203 (brightness)

B = 126.518 (background)

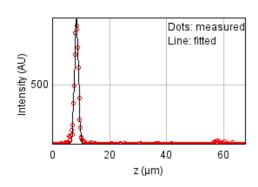
a = 0.660 px

b = 0.058 px

c = 0.796 px

xc = 5.859 pxyc = 6.251 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 32269.1957

Standard deviation: 10.25238

R^2: 0.99114 Parameters: a = 115.35138 b = 939.43964 c = 8.50858

# Bead 302 (Rejected)

Date: Mon Oct 17 13:27:57 PDT 2022

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

Frame size: 10 pixels

Coordinates: -85.2 um (x), 16.9 um (y), 7.84 um (z)

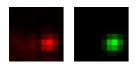
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

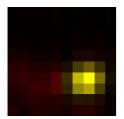
FWHM	Non corrected	Corrected	Theoretical
min	419 nm	433 nm	223 nm
max	491 nm	508 nm	223 nm
Z	1.76 um	1.77 um	885 nm
Asymmetry	0.852		
Theta	18.1°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.849$ 



Parameters:

A = 618.749 (brightness)

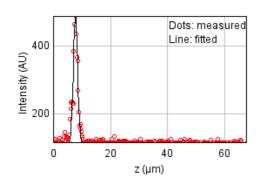
B = 145.999 (background) a = 0.577 px

b = 0.062 px

c = 0.745 px

xc = 6.745 pxyc = 6.215 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 49760.0328

Standard deviation: 12.73125

R^2: 0.94325 Parameters:

a = 113.42303

b = 491.56542

c = 7.83904

Date: Mon Oct 17 13:27:57 PDT 2022

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

Frame size: 10 pixels

Coordinates: -129 um (x), 15.6 um (y), 7.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	358 nm	370 nm	223 nm
max	746 nm	772 nm	223 nm
Z	1.53 um	1.54 um	885 nm
Asymmetry	0.48		
Theta	15.5°		

### XY profile & fitting parameters :

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





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



Parameters:

A = 364.988 (brightness)

B = 117.807 (background)

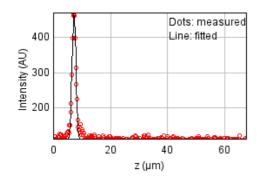
a = 0.298 px

b = 0.207 px

c = 0.988 px

xc = 5.717 pxyc = 5.926 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21616.7235

Standard deviation: 8.39123

R^2: 0.96793 Parameters: a = 112.36612 b = 471.04744 c = 7.30260

Date: Mon Oct 17 13:27:57 PDT 2022

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

Frame size: 10 pixels

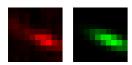
Coordinates: 117 um (x), 10.7 um (y), 6.8 um (z)

Corresponding bead: Not found

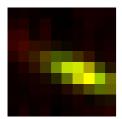
FWHM	Non corrected	Corrected	Theoretical
min	371 nm	383 nm	223 nm
max	1.14 um	1.18 um	223 nm
Z	1.77 um	1.78 um	885 nm
Asymmetry	0.324		
Theta	-20.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 225.406 (brightness)

B = 119.109 (background)

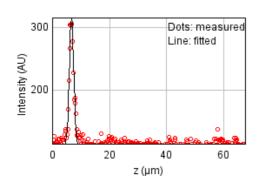
a = 0.213 px

b = -0.291 px

c = 0.865 px

xc = 6.376 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: 16768.5308

Standard deviation: 7.39058

R^2: 0.93445 Parameters: a = 112.88074 b = 315.60749

c = 6.80075

# Bead 305 (Rejected)

Date: Mon Oct 17 13:27:58 PDT 2022

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

Frame size: 10 pixels

Coordinates: -141 um (x), 2.58 um (y), 9.9 um (z)

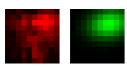
Corresponding bead: Not found

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

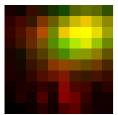
FWHM	Non corrected	Corrected	Theoretical
min	888 nm	918 nm	223 nm
max	1.27 um	1.32 um	223 nm
Z	1.17 um	1.18 um	885 nm
Asymmetry	0.698		
Theta	12.1°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.707$$



Parameters:

A = 119.089 (brightness)

B = 134.547 (background)

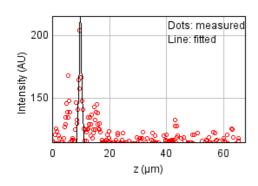
a = 0.087 px

b = 0.018 px

c = 0.166 px

xc = 6.640 pxyc = 2.281 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 29153.1358

Standard deviation: 9.74481

R^2: 0.57610 Parameters:

a = 114.35703

b = 215.10139

c = 9.90340

Date: Mon Oct 17 13:27:58 PDT 2022

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

Frame size: 10 pixels

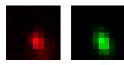
Coordinates: 28.0 um (x), -10.6 um (y), 7.88 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	412 nm	426 nm	223 nm
max	641 nm	662 nm	223 nm
Z	1.77 um	1.78 um	885 nm
Asymmetry	0.643		
Theta	-67.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 689.022 (brightness)

B = 127.419 (background)

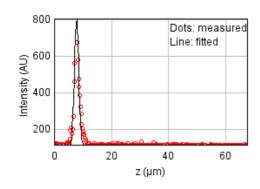
a = 0.724 px

b = -0.162 px

c = 0.393 px

xc = 5.351 pxyc = 6.353 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 139996.883

Standard deviation: 21.35453

R^2: 0.95176 Parameters: a = 114.97559 b = 804.12020 c = 7.87572

Date: Mon Oct 17 13:27:58 PDT 2022

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

Frame size: 10 pixels

Coordinates: -148 um (x), -10.4 um (y), 6.49 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	384 nm	397 nm	223 nm
max	1.44 um	1.48 um	223 nm
Z	2.3 um	2.31 um	885 nm
Asymmetry	0.267		
Theta	25.1°		

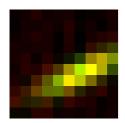
### XY profile & fitting parameters :

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





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



Parameters:

A = 145.399 (brightness)

B = 112.597 (background)

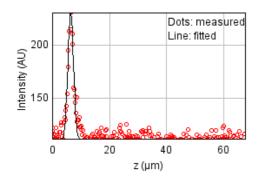
a = 0.217 px

b = 0.324 px

c = 0.757 px

xc = 6.204 pxyc = 5.287 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 13036.4933

Standard deviation: 6.51645

R^2: 0.89112 Parameters:

a = 111.27952

b = 230.76015

c = 6.49274

# Bead 308 (Rejected)

Date: Mon Oct 17 13:27:58 PDT 2022

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

Frame size: 10 pixels

Coordinates: 147 um (x), -13.1 um (y), 7.28 um (z)

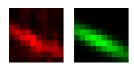
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

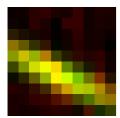
FWHM	Non corrected	Corrected	Theoretical
min	454 nm	469 nm	223 nm
max	2.24 um	2.32 um	223 nm
Z	3.38 um	3.39 um	885 nm
Asymmetry	0.202		
Theta	-25.9°		

### XY profile & fitting parameters :

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



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



A = 101.655 (brightness)

B = 110.915 (background)

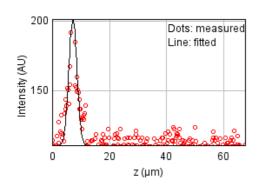
a = 0.146 px

b = -0.246 px

c = 0.533 px

xc = 3.952 pxyc = 5.597 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18924.7596

Standard deviation: 7.85138

R^2: 0.82145 Parameters:

a = 110.81532

b = 201.07098

c = 7.27612

# Bead 309 (Rejected)

Date: Mon Oct 17 13:27:58 PDT 2022

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

Frame size: 10 pixels

Coordinates: 96.0 um (x), -14.0 um (y), 5.61 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	478 nm	494 nm	223 nm
max	990 nm	1.02 um	223 nm
Z	2.67 um	2.68 um	885 nm
Asymmetry	0.482		
Theta	70.8°		

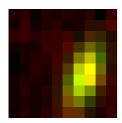
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.876$$



A = 118.146 (brightness)

B = 120.172 (background)

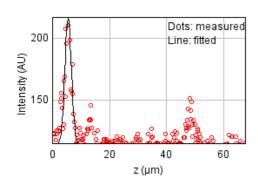
a = 0.539 px

b = 0.140 px

c = 0.186 px

xc = 6.520 pxyc = 5.607 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26809.9679

Standard deviation: 9.34499

R^2: 0.76988

Parameters:

a = 114.87943

b = 217.09285

c = 5.61042

# Bead 310 (Rejected)

Date: Mon Oct 17 13:27:59 PDT 2022

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

Frame size: 10 pixels

Coordinates: 124 um (x), -19.5 um (y), 7.27 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	426 nm	441 nm	223 nm
max	1.63 um	1.69 um	223 nm
Z	3.63 um	3.64 um	885 nm
Asymmetry	0.261		
Theta	-30.6°		

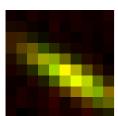
### XY profile & fitting parameters :

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





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



Parameters:

A = 164.473 (brightness)

B = 115.591 (background)

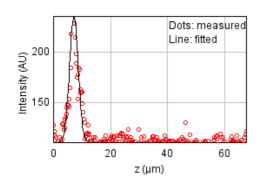
a = 0.228 px

b = -0.301 px

c = 0.560 px

xc = 5.528 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: 29830.9543

Standard deviation: 9.85745

R^2: 0.85435 Parameters:

a = 110.80280

b = 234.67487

c = 7.27058

Date: Mon Oct 17 13:27:59 PDT 2022

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

Frame size: 10 pixels

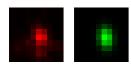
Coordinates: -14.0 um (x), -27.1 um (y), 7.97 um (z)

Corresponding bead: Not found

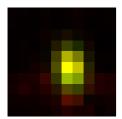
FWHM	Non corrected	Corrected	Theoretical
min	430 nm	444 nm	223 nm
max	640 nm	662 nm	223 nm
Z	1.83 um	1.84 um	885 nm
Asymmetry	0.672		
Theta	-83.4°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.909$$



Parameters:

A = 578.361 (brightness)

B = 134.023 (background)

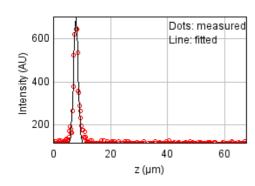
a = 0.721 px

b = -0.045 px

c = 0.333 px

xc = 5.309 pxyc = 5.087 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 70499.5183

Standard deviation: 15.15388

R^2: 0.96724 Parameters: a = 114.62821

b = 702.82290

c = 7.96902

# Bead 312 (Rejected)

Date: Mon Oct 17 13:27:59 PDT 2022

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

Frame size: 10 pixels

Coordinates: -85.1 um (x), -70.0 um (y), 27.4 um (z)

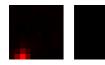
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

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

### XY profile & fitting parameters :

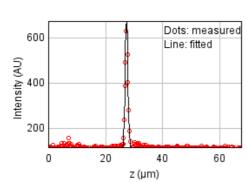
(red: the original data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





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

Sum of residuals squared: 28881.3991

Standard deviation: 9.69929

R^2: 0.97568 Parameters: a = 114.28596 b = 681.95900

c = 27.42283

# Bead 313 (Rejected)

Date: Mon Oct 17 13:28:00 PDT 2022

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

Frame size: 10 pixels

Coordinates: -21.4 um (x), -69.4 um (y), 8.26 um (z)

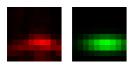
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	466 nm	482 nm	223 nm
max	1.29 um	1.34 um	223 nm
Z	2.32 um	2.33 um	885 nm
Asymmetry	0.361		
Theta	-0.5°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.874$$



Parameters:

A = 316.218 (brightness)

B = 123.266 (background)

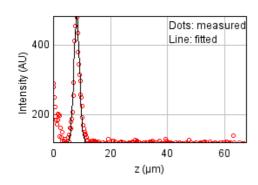
a = 0.080 px

b = -0.005 px

c = 0.618 px

xc = 5.779 pxyc = 6.314 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 172592.458

Standard deviation: 23.71055

R^2: 0.85468 Parameters: a = 118.44892

b = 485.57584

c = 8.25906

## Bead 314 (Rejected)

Date: Mon Oct 17 13:28:00 PDT 2022

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

Frame size: 10 pixels

Coordinates: -117 um (x), -74.9 um (y), 6.34 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	481 nm	498 nm	223 nm
max	1.47 um	1.52 um	223 nm
Z	1.86 um	1.87 um	885 nm
Asymmetry	0.327		
Theta	-36.4°		

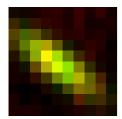
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.881$$



Parameters:

A = 111.624 (brightness)

B = 128.580 (background)

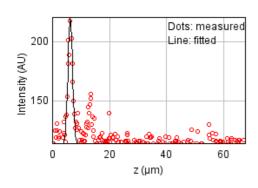
a = 0.244 px

b = -0.247 px

c = 0.396 px

xc = 3.888 pxyc = 4.597 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 22546.8014

Standard deviation: 8.56985

R^2: 0.75690 Parameters:

a = 113.47923

b = 220.64641

c = 6.33505

## Bead 315 (Rejected)

Date: Mon Oct 17 13:28:00 PDT 2022

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

Frame size: 10 pixels

Coordinates: 103 um (x), 59.5 um (y), 7.38 um (z)

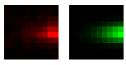
Corresponding bead: Not found

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

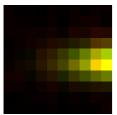
FWHM	Non corrected	Corrected	Theoretical
min	532 nm	550 nm	223 nm
max	1.76 um	1.82 um	223 nm
Z	3.3 um	3.31 um	885 nm
Asymmetry	0.303		
Theta	0.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 493.297 (brightness) B = 123.224 (background)

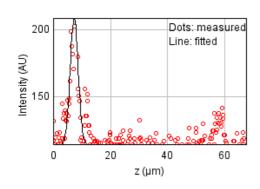
a = 0.043 px

b = 0.004 px

c = 0.474 px

xc = 10.827 pxyc = 4.708 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 34925.5019

Standard deviation: 10.66601

R^2: 0.72611 Parameters:

a = 114.38882

b = 208.50643

c = 7.38242

# Bead 316 (Rejected)

Date: Mon Oct 17 13:28:00 PDT 2022

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

Frame size: 10 pixels

Coordinates: 150 um (x), 52.4 um (y), 6.17 um (z)

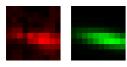
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	432 nm	447 nm	223 nm
max	1.78 um	1.84 um	223 nm
Z	3.4 um	3.41 um	885 nm
Asymmetry	0.243		
Theta	-9.5°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.888$$



Parameters:

A = 92.559 (brightness)

B = 113.488 (background)

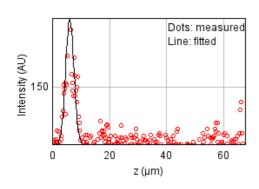
a = 0.061 px

b = -0.110 px

c = 0.700 px

xc = 6.512 pxyc = 5.711 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21481.6044

Standard deviation: 8.36497

R^2: 0.78398

Parameters:

a = 111.03969

b = 196.17778

c = 6.17251

Date: Mon Oct 17 13:28:01 PDT 2022

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

Frame size: 10 pixels

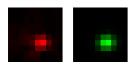
Coordinates: -123 um (x), 49.9 um (y), 8.05 um (z)

Corresponding bead: Not found

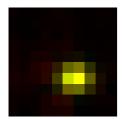
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	421 nm	223 nm
max	487 nm	503 nm	223 nm
Z	1.41 um	1.42 um	885 nm
Asymmetry	0.835		
Theta	4.1°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 524.393 (brightness)

B = 122.418 (background)

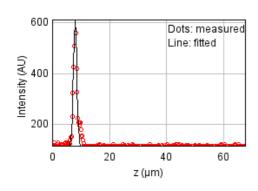
a = 0.567 px

b = 0.017 px

c = 0.810 px

xc = 5.628 pxyc = 5.973 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 40754.8378

Standard deviation: 11.52180

R^2: 0.96684 Parameters: a = 112.87355

b = 617.15989

c = 8.05208

Date: Mon Oct 17 13:28:01 PDT 2022

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

Frame size: 10 pixels

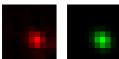
Coordinates: 88.4 um (x), 25.1 um (y), 8.08 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	460 nm	476 nm	223 nm
max	542 nm	560 nm	223 nm
Z	1.74 um	1.75 um	885 nm
Asymmetry	0.85		
Theta	-41.8°		

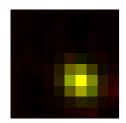
### XY profile & fitting parameters :

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





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



Parameters:

A = 405.041 (brightness)

B = 117.086 (background)

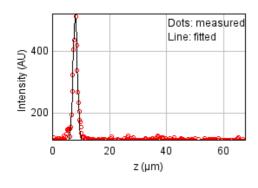
a = 0.535 px

b = -0.087 px

c = 0.555 px

xc = 5.924 pxyc = 6.086 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25785.3720

Standard deviation: 9.16468

R^2: 0.97388 Parameters: a = 113.56549

b = 523.58922

c = 8.08212

## Bead 319 (Rejected)

Date: Mon Oct 17 13:28:01 PDT 2022

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

Frame size: 10 pixels

Coordinates: -59.5 um (x), 5.66 um (y), 9.1 um (z)

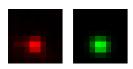
Corresponding bead: Not found

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

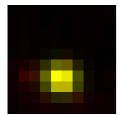
FWHM	Non corrected	Corrected	Theoretical
min	465 nm	480 nm	223 nm
max	522 nm	539 nm	223 nm
Z	4.07 um	4.09 um	885 nm
Asymmetry	0.891		
Theta	-15.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 640.829 (brightness)

B = 122.706 (background)

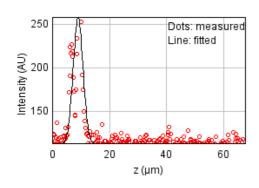
a = 0.502 px

b = -0.033 px

c = 0.612 px

xc = 4.424 pxyc = 6.252 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 81789.4663

Standard deviation: 16.32223

R^2: 0.76757 Parameters:

a = 112.62691

b = 258.65271

c = 9.10230

## Bead 320 (Rejected)

Date: Mon Oct 17 13:28:01 PDT 2022

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

Frame size: 10 pixels

Coordinates: 58.1 um (x), -95.7 um (y), 5.52 um (z)

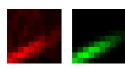
Corresponding bead: Not found

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

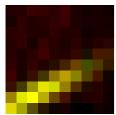
FWHM	Non corrected	Corrected	Theoretical
min	353 nm	365 nm	223 nm
max	1.97 um	2.04 um	223 nm
Z	2.08 um	2.09 um	885 nm
Asymmetry	0.179		
Theta	26.6°		

### XY profile & fitting parameters :

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



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



A = 179.732 (brightness)

B = 131.834 (background)

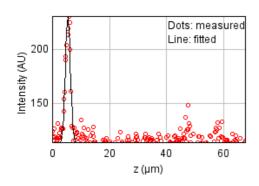
a = 0.243 px

b = 0.417 px

c = 0.867 px

xc = 1.971 pxyc = 7.828 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18614.0583

Standard deviation: 7.78666

R^2: 0.83321 Parameters:

a = 113.87514

b = 230.96817

c = 5.52413

Date: Mon Oct 17 13:28:02 PDT 2022

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

Frame size: 10 pixels

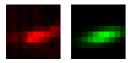
Coordinates: 121 um (x), 86.6 um (y), 7.24 um (z)

Corresponding bead: Not found

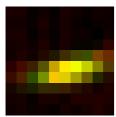
FWHM	Non corrected	Corrected	Theoretical
min	380 nm	393 nm	223 nm
max	1.12 um	1.16 um	223 nm
Z	2.06 um	2.07 um	885 nm
Asymmetry	0.34		
Theta	11.9°		

### XY profile & fitting parameters :

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



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



A = 188.706 (brightness)

B = 113.862 (background)

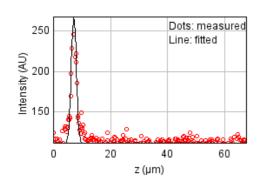
a = 0.142 px

b = 0.166 px

c = 0.892 px

xc = 5.374 pxyc = 5.351 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18645.5970

Standard deviation: 7.79326

R^2: 0.89716 Parameters: a = 111.65742

b = 267.23480

c = 7.23864

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## Bead 322 (Rejected)

Date: Mon Oct 17 13:28:02 PDT 2022

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

Frame size: 10 pixels

Coordinates: 124 um (x), 53.6 um (y), 47.4 um (z)

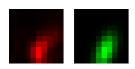
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	521 nm	538 nm	223 nm
max	1.03 um	1.07 um	223 nm
Z	1.31 um	1.31 um	885 nm
Asymmetry	0.505		
Theta	68.2°		

### XY profile & fitting parameters :

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



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



A = 460.869 (brightness)

B = 123.653 (background)

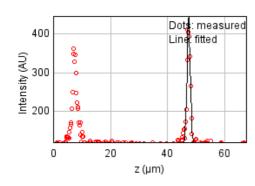
a = 0.444 px

b = 0.127 px

c = 0.177 px

xc = 5.238 pxyc = 7.217 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 360915.055

Standard deviation: 34.28730

R^2: 0.56392 Parameters:

a = 120.17738

b = 447.89111

c = 47.43589

Date: Mon Oct 17 13:28:02 PDT 2022

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

Frame size: 10 pixels

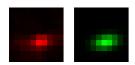
Coordinates: -138 um (x), 34.4 um (y), 8.46 um (z)

Corresponding bead: Not found

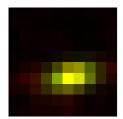
FWHM	Non corrected	Corrected	Theoretical
min	396 nm	410 nm	223 nm
max	740 nm	765 nm	223 nm
Z	1.94 um	1.94 um	885 nm
Asymmetry	0.536		
Theta	11.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 379.965 (brightness)

B = 120.296 (background)

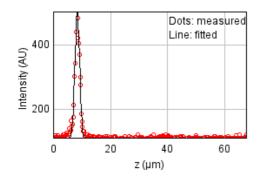
a = 0.268 px

b = 0.116 px

c = 0.832 px

xc = 5.330 pxyc = 5.855 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25471.4374

Standard deviation: 9.10872

R^2: 0.97468 Parameters: a = 112.19187 b = 505.51737 c = 8.45571

Date: Mon Oct 17 13:28:02 PDT 2022

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

Frame size: 10 pixels

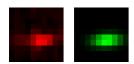
Coordinates: -141 um (x), 33.1 um (y), 7.53 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	382 nm	395 nm	223 nm
max	892 nm	922 nm	223 nm
Z	2.39 um	2.4 um	885 nm
Asymmetry	0.428		
Theta	3.5°		

### XY profile & fitting parameters :

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



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



A = 260.401(brightness)

B = 120.106 (background)

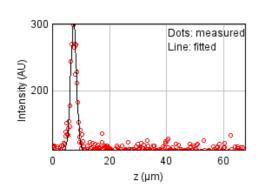
a = 0.171 px

b = 0.045 px

c = 0.919 px

xc = 5.465 pxyc = 5.553 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27426.9588

Standard deviation: 9.45191

R^2: 0.91040 Parameters: a = 111.44779b = 301.15715

c = 7.52651

Date: Mon Oct 17 13:28:03 PDT 2022

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

Frame size: 10 pixels

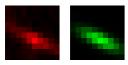
Coordinates: 109 um (x), 37.6 nm (y), 8.24 um (z)

Corresponding bead: Not found

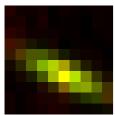
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	413 nm	223 nm
max	1.3 um	1.34 um	223 nm
Z	1.9 um	1.91 um	885 nm
Asymmetry	0.307		
Theta	-25.0°		

### XY profile & fitting parameters :

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



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



A = 255.629 (brightness)

B = 119.455 (background)

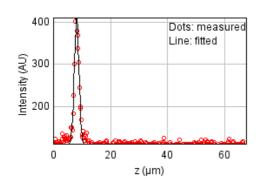
a = 0.215 px

b = -0.292 px

c = 0.705 px

xc = 4.997 pxyc = 5.829 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22483.1237

Standard deviation: 8.55774

R^2: 0.96153 Parameters: a = 111.80598 b = 412.14221 c = 8.23790

Date: Mon Oct 17 13:28:03 PDT 2022

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

Frame size: 10 pixels

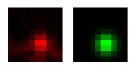
Coordinates: -29.6 um (x), -39.9 um (y), 4.31 um (z)

Corresponding bead: Not found

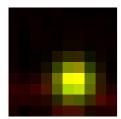
FWHM	Non corrected	Corrected	Theoretical
min	586 nm	606 nm	223 nm
max	605 nm	626 nm	223 nm
Z	2.06 um	2.07 um	885 nm
Asymmetry	0.968		
Theta	-66.6°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.904$ 



Parameters:

A = 423.794 (brightness)

B = 129.171 (background)

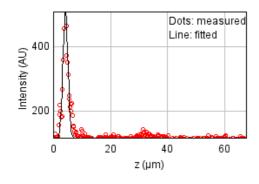
a = 0.387 px

b = -0.009 px

c = 0.370 px

xc = 5.525 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: 77440.2624

Standard deviation: 15.88233

R^2: 0.93045 Parameters:

a = 117.96715

b = 510.08277

c = 4.30668

# Bead 327 (Rejected)

Date: Mon Oct 17 13:28:03 PDT 2022

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

Frame size: 10 pixels

Coordinates: -117 um (x), -74.9 um (y), 6.34 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	481 nm	498 nm	223 nm
max	1.47 um	1.52 um	223 nm
Z	1.86 um	1.87 um	885 nm
Asymmetry	0.327		
Theta	-36.4°		

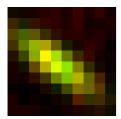
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.881$$



Parameters:

A = 111.624 (brightness)

B = 128.580 (background)

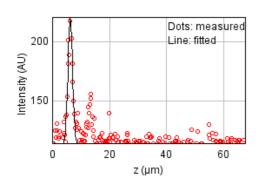
a = 0.244 px

b = -0.247 px

c = 0.396 px

xc = 3.888 pxyc = 4.597 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22546.8014

Standard deviation: 8.56985

R^2: 0.75690 Parameters:

a = 113.47923

b = 220.64641

c = 6.33505

## Bead 328 (Rejected)

Date: Mon Oct 17 13:28:03 PDT 2022

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

Frame size: 10 pixels

Coordinates: 89.9 um (x), -76.5 um (y), 8.91 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	882 nm	911 nm	223 nm
max	1.11 um	1.14 um	223 nm
Z	3.36 um	3.37 um	885 nm
Asymmetry	0.797		
Theta	53.1°		

### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.707$$



Parameters:

A = 71.972 (brightness)

B = 124.211 (background)

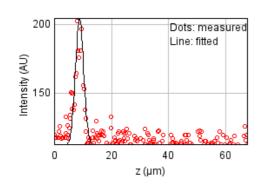
a = 0.150 px

b = 0.030 px

c = 0.132 px

xc = 5.625 pxyc = 6.817 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 19307.3259

Standard deviation: 7.93034

R^2: 0.82372 Parameters:

a = 112.43437

b = 204.57838

c = 8.90781

# Bead 329 (Rejected)

Date: Mon Oct 17 13:28:03 PDT 2022

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

Frame size: 10 pixels

Coordinates: -8.4 um (x), -80.5 um (y), 8.13 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	561 nm	580 nm	223 nm
max	821 nm	848 nm	223 nm
Z	1.7 um	1.71 um	885 nm
Asymmetry	0.684		
Theta	3.3°		

### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.891$$



Parameters:

A = 330.345 (brightness)

B = 125.907 (background)

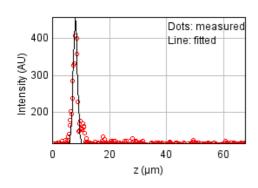
a = 0.200 px

b = 0.013 px

c = 0.425 px

xc = 5.818 pxyc = 5.006 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 52613.5407

Standard deviation: 13.09120

R^2: 0.92585 Parameters:

a = 114.60903

b = 457.29562

c = 8.12538

Date: Mon Oct 17 13:28:03 PDT 2022

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

Frame size: 10 pixels

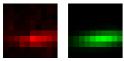
Coordinates: 148 um (x), 88.2 um (y), 7.74 um (z)

Corresponding bead: Not found

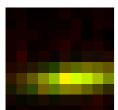
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	412 nm	223 nm
max	1.48 um	1.53 um	223 nm
Z	2.83 um	2.84 um	885 nm
Asymmetry	0.27		
Theta	4.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 189.994 (brightness)

B = 114.402 (background)

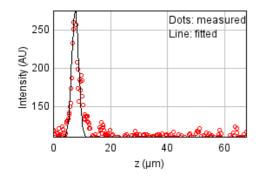
a = 0.067 px

b = 0.064 px

c = 0.839 px

xc = 5.926 pxyc = 6.039 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 41101.8561

Standard deviation: 11.57075

R^2: 0.85618 Parameters: a = 110.54958 b = 274.75605

c = 7.74176

Date: Mon Oct 17 13:28:04 PDT 2022

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

Frame size: 10 pixels

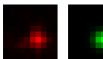
Coordinates: -35.0 um (x), 82.1 um (y), 9.01 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	499 nm	516 nm	223 nm
max	548 nm	566 nm	223 nm
Z	1.57 um	1.58 um	885 nm
Asymmetry	0.911		
Theta	6.1°		

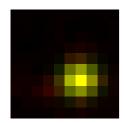
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.957$$



Parameters:

A = 670.918 (brightness)

B = 127.301(background)

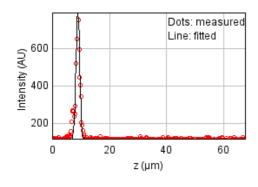
a = 0.448 px

b = 0.010 px

c = 0.538 px

xc = 5.874 pxyc = 5.963 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 113046.979

Standard deviation: 19.18935

R^2: 0.95415 Parameters:

a = 115.13731

b = 788.92320

c = 9.00584

Date: Mon Oct 17 13:28:04 PDT 2022

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

Frame size: 10 pixels

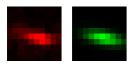
Coordinates: -154 um (x), 74.9 um (y), 7.88 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	375 nm	388 nm	223 nm
max	1.1 um	1.14 um	223 nm
Z	2.23 um	2.24 um	885 nm
Asymmetry	0.34		
Theta	-11.3°		

## XY profile & fitting parameters :

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



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



A = 289.569 (brightness)

B = 115.474 (background)

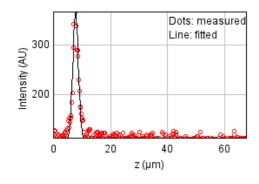
a = 0.142 px

b = -0.161 px

c = 0.920 px

xc = 5.348 pxyc = 5.321 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 29251.3152

Standard deviation: 9.76121

R^2: 0.94145 Parameters: a = 111.43269 b = 366.13766

c = 7.87598

Date: Mon Oct 17 13:28:04 PDT 2022

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

Frame size: 10 pixels

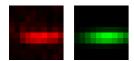
Coordinates: 137 um (x), 67.0 um (y), 7.37 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	361 nm	373 nm	223 nm
max	1.41 um	1.46 um	223 nm
Z	1.88 um	1.89 um	885 nm
Asymmetry	0.256		
Theta	1.0°		

### 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 = 185.669 (brightness)

B = 114.610 (background)

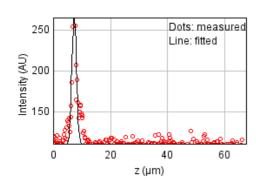
a = 0.068 px

b = 0.017 px

c = 1.029 px

xc = 5.595 pxyc = 5.340 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25276.3629

Standard deviation: 9.07378

R^2: 0.85390 Parameters:

a = 111.17543

b = 265.82127

c = 7.36979

Date: Mon Oct 17 13:28:04 PDT 2022

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

Frame size: 10 pixels

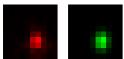
Coordinates: 20.4 um (x), 50.1 um (y), 8.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	407 nm	421 nm	223 nm
max	518 nm	535 nm	223 nm
Z	1.43 um	1.44 um	885 nm
Asymmetry	0.786		
Theta	86.6°		

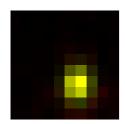
### XY profile & fitting parameters :

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





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



Parameters:

A = 822.394 (brightness)

B = 126.504 (background)

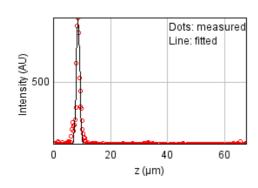
a = 0.810 px

b = 0.018 px

c = 0.501 px

xc = 5.690 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: 127855.537

Standard deviation: 20.40754

R^2: 0.95872 Parameters: a = 115.75993b = 907.58186

c = 8.70073

# Bead 335 (Rejected)

Date: Mon Oct 17 13:28:04 PDT 2022

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

Frame size: 10 pixels

Coordinates: -154 um (x), 32.2 um (y), 7.98 um (z)

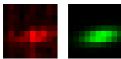
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	422 nm	436 nm	223 nm
max	1.11 um	1.15 um	223 nm
Z	2.74 um	2.75 um	885 nm
Asymmetry	0.378		
Theta	8.3°		

# XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.852$$



Parameters:

A = 119.981 (brightness)

B = 115.235 (background)

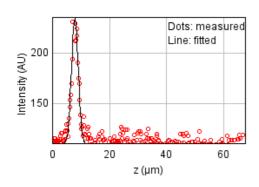
a = 0.122 px

b = 0.092 px

c = 0.741 px

xc = 5.575 pxyc = 5.465 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15088.1716

Standard deviation: 7.01050

R^2: 0.89910 Parameters: a = 111.07469

b = 234.74804

c = 7.98211

Date: Mon Oct 17 13:28:04 PDT 2022

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

Frame size: 10 pixels

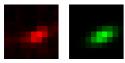
Coordinates: -136 um (x), 9.39 um (y), 7.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	378 nm	391 nm	223 nm
max	780 nm	807 nm	223 nm
Z	1.57 um	1.58 um	885 nm
Asymmetry	0.484		
Theta	22.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 246.113 (brightness)

B = 117.132 (background)

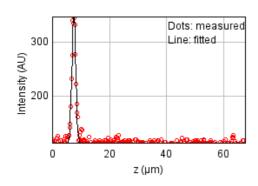
a = 0.326 px

b = 0.255 px

c = 0.834 px

xc = 5.652 pxyc = 5.317 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13367.5001

Standard deviation: 6.59866

R^2: 0.95657 Parameters: a = 111.96847

b = 349.96981

c = 7.59618

# Bead 337 (Rejected)

Date: Mon Oct 17 13:28:04 PDT 2022

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

Frame size: 10 pixels

Coordinates: 140 um (x), -25.2 um (y), 6.5 um (z)

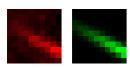
Corresponding bead: Not found

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

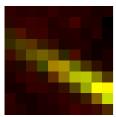
FWHM	Non corrected	Corrected	Theoretical
min	364 nm	377 nm	223 nm
max	3.74 um	3.86 um	223 nm
Z	1.99 um	2.0 um	885 nm
Asymmetry	0.098		
Theta	-27.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 168.259 (brightness)

B = 117.890 (background)

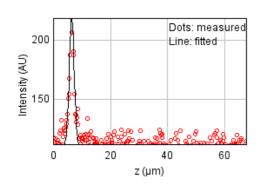
a = 0.228 px

b = -0.413 px

c = 0.792 px

xc = 12.791 pxyc = 9.418 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 13948.3202

Standard deviation: 6.74049

R^2: 0.84361

Parameters: a = 111.79672

b = 219.30235

c = 6.50324

Date: Mon Oct 17 13:28:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: 54.2 um (x), -38.9 um (y), 8.38 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	449 nm	465 nm	223 nm
max	571 nm	590 nm	223 nm
Z	1.46 um	1.46 um	885 nm
Asymmetry	0.788		
Theta	-65.9°		

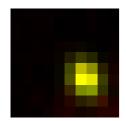
#### XY profile & fitting parameters :

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





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



Parameters:

A = 675.875 (brightness)

B = 126.393 (background)

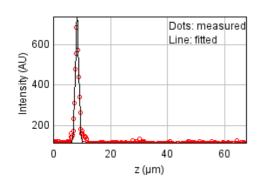
a = 0.622 px

b = -0.094 px

c = 0.454 px

xc = 6.411 pxyc = 5.914 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 33428.2157

Standard deviation: 10.43488

R^2: 0.98248 Parameters: a = 114.02617 b = 737.38352

c = 8.37572

Date: Mon Oct 17 13:28:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: 117 um (x), -40.2 um (y), 7.94 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	449 nm	465 nm	223 nm
max	1.74 um	1.8 um	223 nm
Z	2.56 um	2.57 um	885 nm
Asymmetry	0.258		
Theta	-33.8°		

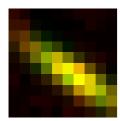
#### XY profile & fitting parameters :

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





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



Parameters:

A = 172.576 (brightness)

B = 116.674 (background)

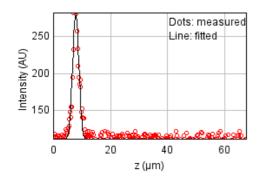
a = 0.236 px

b = -0.287 px

c = 0.473 px

xc = 5.595 pxyc = 5.636 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18923.5797

Standard deviation: 7.85114

R^2: 0.92725 Parameters:

a = 111.23396

b = 282.21953

c = 7.93767

d = 1.08560

Date: Mon Oct 17 13:28:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: -113 um (x), -57.0 um (y), 8.07 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	439 nm	453 nm	223 nm
max	925 nm	956 nm	223 nm
Z	1.86 um	1.86 um	885 nm
Asymmetry	0.474		
Theta	49.9°		

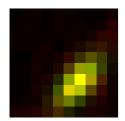
#### XY profile & fitting parameters :

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





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



Parameters:

A = 337.492 (brightness)

B = 121.562 (background)

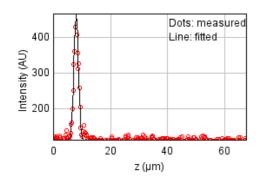
a = 0.473 px

b = 0.266 px

c = 0.381 px

xc = 5.858 pxyc = 6.226 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29233.4831

Standard deviation: 9.75823

R^2: 0.96327 Parameters:

a = 112.11054

b = 466.94667

c = 8.06884

## Bead 341 (Rejected)

Date: Mon Oct 17 13:28:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: -44.4 um (x), -69.4 um (y), 8.2 um (z)

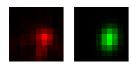
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

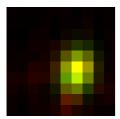
FWHM	Non corrected	Corrected	Theoretical
min	503 nm	520 nm	223 nm
max	689 nm	713 nm	223 nm
Z	1.41 um	1.41 um	885 nm
Asymmetry	0.729		
Theta	78.4°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.896$$



Parameters:

A = 378.539 (brightness) B = 124.954 (background)

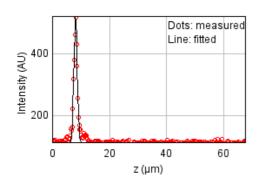
a = 0.521 px

b = 0.049 px

c = 0.292 px

xc = 5.956 pxyc = 5.376 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 22842.0056

Standard deviation: 8.62577

R^2: 0.97163 Parameters:

a = 113.72320

b = 523.57738

c = 8.20328

# Bead 342 (Rejected)

Date: Mon Oct 17 13:28:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: 39.2 um (x), -81.9 um (y), 6.79 um (z)

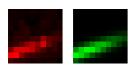
Corresponding bead: Not found

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

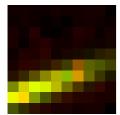
FWHM	Non corrected	Corrected	Theoretical
min	382 nm	395 nm	223 nm
max	2.47 um	2.55 um	223 nm
Z	1.39 um	1.4 um	885 nm
Asymmetry	0.155		
Theta	18.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 135.350 (brightness) B = 119.407 (background)

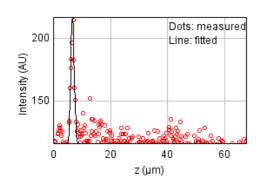
a = 0.115 px

b = 0.274 px

c = 0.825 px

xc = 1.388 pxyc = 7.394 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20428.1324

Standard deviation: 8.15728

R^2: 0.69663 Parameters:

a = 116.24769

b = 217.10550

c = 6.79422

Date: Mon Oct 17 13:28:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: 31.7 um (x), -86.2 um (y), 7.85 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	759 nm	785 nm	223 nm
max	1.02 um	1.05 um	223 nm
Z	2.12 um	2.13 um	885 nm
Asymmetry	0.744		
Theta	-76.8°		

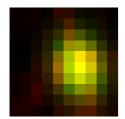
#### XY profile & fitting parameters :

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





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



Parameters:

A = 223.651 (brightness)

B = 119.225 (background)

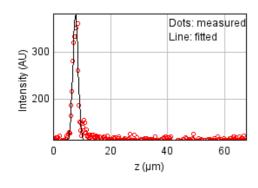
a = 0.227 px

b = -0.023 px

c = 0.134 px

xc = 5.917 pxyc = 4.915 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 30917.0189

Standard deviation: 10.03528

R^2: 0.94228 Parameters: a = 112.96465 b = 383.02590

c = 7.84555

# Bead 344 (Rejected)

Date: Mon Oct 17 13:28:05 PDT 2022

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

Frame size: 10 pixels

Coordinates: -101 um (x), -88.2 um (y), 29.9 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

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

### XY profile & fitting parameters :

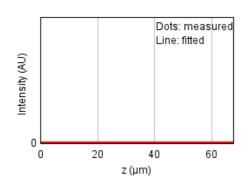
(red: the original data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





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

Sum of residuals squared: 0.00000E0

Standard deviation: 0.00000E0

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

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

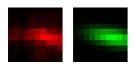
Coordinates: -53.5 um (x), -94.4 um (y), 9.1 um (z)

Corresponding bead: Not found

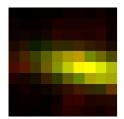
FWHM	Non corrected	Corrected	Theoretical
min	500 nm	517 nm	223 nm
max	1.56 um	1.62 um	223 nm
Z	1.69 um	1.69 um	885 nm
Asymmetry	0.32		
Theta	-10.0°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 293.006 (brightness)

B = 129.431 (background)

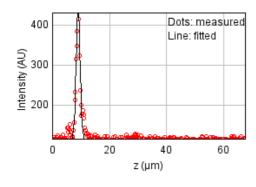
a = 0.069 px

b = -0.083 px

c = 0.522 px

xc = 6.918 pxyc = 5.070 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 35075.8986

Standard deviation: 10.68895

R^2: 0.94092 Parameters: a = 114.24333 b = 431.24650

c = 9.09788

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

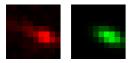
Coordinates: -143 um (x), 90.3 um (y), 8.24 um (z)

Corresponding bead: Not found

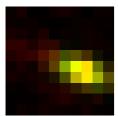
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	415 nm	223 nm
max	818 nm	846 nm	223 nm
Z	2.21 um	2.22 um	885 nm
Asymmetry	0.49		
Theta	-19.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 308.546 (brightness)

B = 123.814 (background)

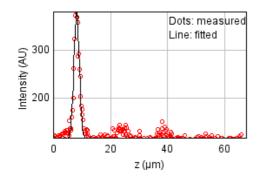
a = 0.273 px

b = -0.202 px

c = 0.762 px

xc = 6.560 pxyc = 5.414 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 37030.0743

Standard deviation: 10.98267

R^2: 0.93220 Parameters:

a = 115.32772

b = 381.23325

c = 8.23618

# Bead 347 (Rejected)

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

Coordinates: 136 um (x), 67.0 um (y), 7.3 um (z)

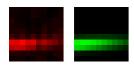
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	363 nm	376 nm	223 nm
max	2.93 um	3.03 um	223 nm
Z	1.45 um	1.46 um	885 nm
Asymmetry	0.124		
Theta	2.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 172.811 (brightness) B = 115.045 (background)

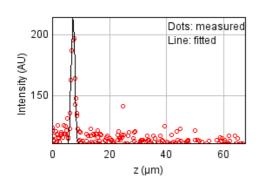
a = 0.018 px

b = 0.050 px

c = 1.013 px

xc = -0.039 pxyc = 6.432 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 13190.0394

Standard deviation: 6.55472

R^2: 0.79872 Parameters:

a = 110.52795

b = 214.82254

c = 7.30416

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

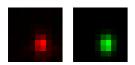
Coordinates: 20.4 um (x), 50.1 um (y), 8.7 um (z)

Corresponding bead: Not found

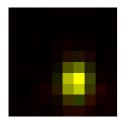
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	421 nm	223 nm
max	518 nm	535 nm	223 nm
Z	1.43 um	1.44 um	885 nm
Asymmetry	0.786		
Theta	86.6°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 822.394 (brightness)

B = 126.504 (background)

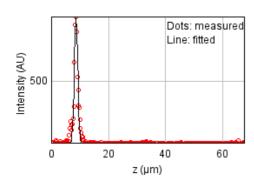
a = 0.810 px

b = 0.018 px

c = 0.501 px

xc = 5.690 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: 127855.537

Standard deviation: 20.40754

R^2: 0.95872 Parameters: a = 115.75993 b = 907.58186 c = 8.70073

## Bead 349 (Rejected)

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

Coordinates: -72.5 um (x), 20.2 um (y), 8.76 um (z)

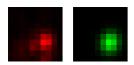
Corresponding bead: Not found

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

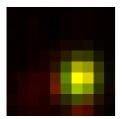
FWHM	Non corrected	Corrected	Theoretical
min	554 nm	573 nm	223 nm
max	639 nm	661 nm	223 nm
Z	2.06 um	2.07 um	885 nm
Asymmetry	0.867		
Theta	74.3°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.856$ 



Parameters:

A = 436.730 (brightness)

B = 135.992 (background)

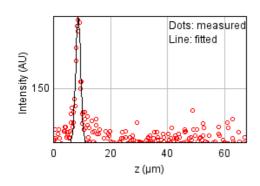
a = 0.429 px

b = 0.028 px

c = 0.336 px

xc = 6.263 pxyc = 6.068 px

#### **Z profile & fitting parameters:**



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

Sum of residuals squared: 14869.6442

Standard deviation: 6.95955

R^2: 0.77123 Parameters:

a = 112.85604

b = 199.11530

c = 8.76457

# Bead 350 (Rejected)

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

Coordinates: 34.9 um (x), 10.1 um (y), 9.16 um (z)

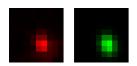
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

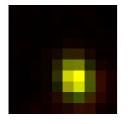
FWHM	Non corrected	Corrected	Theoretical
min	451 nm	466 nm	223 nm
max	585 nm	605 nm	223 nm
Z	1.7 um	1.71 um	885 nm
Asymmetry	0.77		
Theta	-72.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 627.892 (brightness) B = 125.432 (background)

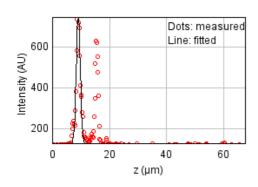
a = 0.636 px

b = -0.079 px

c = 0.417 px

xc = 5.686 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: 1244871.44

Standard deviation: 63.67853

R^2: 0.63446

Parameters:

a = 127.85017

b = 749.27071

c = 9.16262

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

Coordinates: 42.2 um (x), 8.13 um (y), 9.05 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	358 nm	370 nm	223 nm
max	579 nm	599 nm	223 nm
Z	1.62 um	1.62 um	885 nm
Asymmetry	0.618		
Theta	-53.8°		

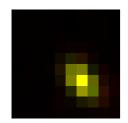
### XY profile & fitting parameters :

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





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



Parameters:

A = 1299.620 (brightness)

B = 127.822 (background)

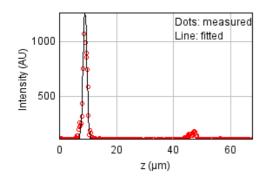
a = 0.823 px

b = -0.309 px

c = 0.626 px

xc = 5.951 pxyc = 6.044 px

# Z profile & fitting parameters:



Fitted on y = a +  $(b-a)*exp(-(x-c)^2/(2*d^2)$ Sum of residuals squared: 324162.091

Standard deviation: 32.49465

R^2: 0.95520 Parameters:

a = 118.26879

b = 1256.30712

c = 9.05485

Date: Mon Oct 17 13:28:06 PDT 2022

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

Frame size: 10 pixels

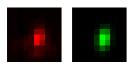
Coordinates: -31.4 um (x), 4.34 um (y), 9.04 um (z)

Corresponding bead: Not found

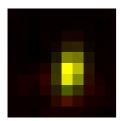
FWHM	Non corrected	Corrected	Theoretical
min	372 nm	384 nm	223 nm
max	602 nm	623 nm	223 nm
Z	2.05 um	2.05 um	885 nm
Asymmetry	0.617		
Theta	80.3°		

#### XY profile & fitting parameters :

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



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



A = 723.422 (brightness)

B = 130.153 (background)

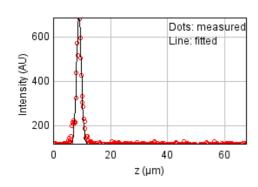
a = 0.954 px

b = 0.099 px

c = 0.387 px

xc = 5.309 pxyc = 5.282 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 84468.3894

Standard deviation: 16.58738

R^2: 0.96281 Parameters: a = 115.71737 b = 687.85600

c = 9.04194

Date: Mon Oct 17 13:28:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -150 um (x), 4.31 um (y), 8.04 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	376 nm	388 nm	223 nm
max	1.12 um	1.16 um	223 nm
Z	1.92 um	1.92 um	885 nm
Asymmetry	0.334		
Theta	21.0°		

### XY profile & fitting parameters :

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





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



Parameters:

A = 216.571(brightness)

B = 114.297 (background)

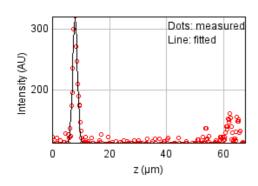
a = 0.214 px

b = 0.282 px

c = 0.843 px

xc = 5.851 pxyc = 6.428 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 40086.4996

Standard deviation: 11.42694

R^2: 0.87053 Parameters: a = 113.73132b = 320.90046

c = 8.03576

Date: Mon Oct 17 13:28:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -31.4 um (x), 4.34 um (y), 9.04 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	377 nm	389 nm	223 nm
max	608 nm	629 nm	223 nm
Z	2.05 um	2.05 um	885 nm
Asymmetry	0.619		
Theta	80.3°		

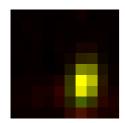
## XY profile & fitting parameters :

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





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



Parameters:

A = 721.592 (brightness)

B = 126.827 (background)

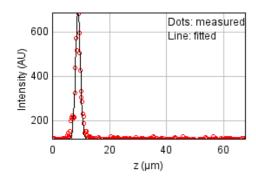
a = 0.930 px

b = 0.097 px

c = 0.379 px

xc = 6.309 pxyc = 6.283 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 84468.3894

Standard deviation: 16.58738

R^2: 0.96281 Parameters: a = 115.71737 b = 687.85600

c = 9.04194

# Bead 355 (Rejected)

Date: Mon Oct 17 13:28:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -5.7 um (x), -41.4 um (y), 8.58 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	437 nm	452 nm	223 nm
max	618 nm	639 nm	223 nm
Z	1.74 um	1.74 um	885 nm
Asymmetry	0.707		
Theta	-79.4°		

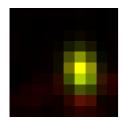
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.878$$



xc = 6.111 pxyc = 5.254 px

#### Parameters:

A = 552.821 (brightness)

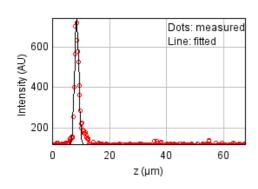
B = 131.992 (background)

a = 0.691 px

b = -0.064 px

c = 0.363 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 97816.5279

Standard deviation: 17.84995

R^2: 0.95855

Parameters: a = 115.58907

b = 744.68205

c = 8.57912

Date: Mon Oct 17 13:28:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 20.5 um (x), -41.8 um (y), 7.99 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	371 nm	384 nm	223 nm
max	578 nm	597 nm	223 nm
Z	1.3 um	1.31 um	885 nm
Asymmetry	0.643		
Theta	-77.7°		

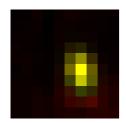
#### XY profile & fitting parameters :

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





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



Parameters:

A = 500.042 (brightness)

B = 123.734 (background)

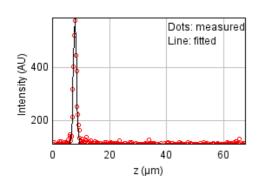
a = 0.947 px

b = -0.119 px

c = 0.428 px

xc = 5.992 pxyc = 5.194 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23724.5107

Standard deviation: 8.79082

R^2: 0.97612 Parameters:

a = 113.60760

b = 587.41727

c = 7.99007

# Bead 357 (Rejected)

Date: Mon Oct 17 13:28:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: -48.8 um (x), -57.4 um (y), 6.8 um (z)

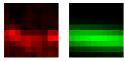
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

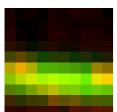
FWHM	Non corrected	Corrected	Theoretical
min	632 nm	654 nm	223 nm
max	3.77 um	3.9 um	223 nm
Z	3.1 um	3.11 um	885 nm
Asymmetry	0.167		
Theta	-4.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.756$$



Parameters:

A = 87.001 (brightness)

B = 116.606 (background)

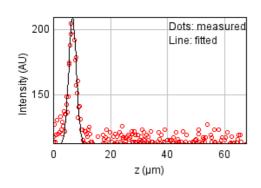
a = -0.008 px

b = -0.024 px

c = 0.334 px

xc = 5.019 pxyc = 6.134 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 14703.9740

Standard deviation: 6.92067

R^2: 0.86097 Parameters:

a = 113.10446

b = 209.09874

c = 6.79824

d = 1.31734

## Bead 358 (Rejected)

Date: Mon Oct 17 13:28:07 PDT 2022

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

Frame size: 10 pixels

Coordinates: 127 um (x), -60.4 um (y), 52.8 um (z)

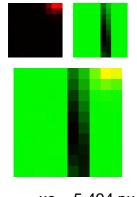
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	132 nm	136 nm	223 nm
max	2.5 um	2.58 um	223 nm
Z	263 nm	264 nm	885 nm
Asymmetry	0.053		
Theta	-89.6°		

## XY profile & fitting parameters :

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



 $R^2 = 0.011$ 

A = -237.362 (brightness)

B = 141.596 (background)

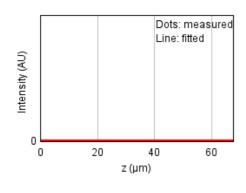
a = 7.714 px

b = -0.056 px

c = 0.022 px

xc = 5.494 pxyc = 6.731 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 0.00000E0

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

Standard deviation: 0.00000E0

R^2: 0.00000 Parameters:

a = 0.00000E0

b = 0.00000E0

c = -0.11115

Date: Mon Oct 17 13:28:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: -99.0 um (x), -65.1 um (y), 7.94 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	452 nm	467 nm	223 nm
max	1.1 um	1.13 um	223 nm
Z	1.95 um	1.96 um	885 nm
Asymmetry	0.413		
Theta	53.5°		

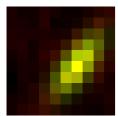
#### XY profile & fitting parameters :

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





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



Parameters:

A = 187.416 (brightness)

B = 123.774 (background)

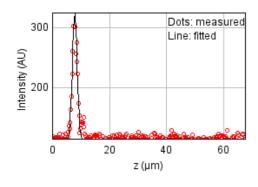
a = 0.464 px

b = 0.261 px

c = 0.304 px

xc = 6.042 pxyc = 4.835 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19398.4663

Standard deviation: 7.94904

R^2: 0.93693 Parameters: a = 112.96693 b = 325.51244 c = 7.94137

## Bead 360 (Rejected)

Date: Mon Oct 17 13:28:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 42.6 um (x), -93.3 um (y), 8.66 um (z)

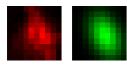
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

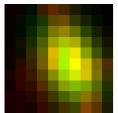
FWHM	Non corrected	Corrected	Theoretical
min	887 nm	917 nm	223 nm
max	1.38 um	1.42 um	223 nm
Z	2.96 um	2.97 um	885 nm
Asymmetry	0.643		
Theta	-66.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 192.950 (brightness) B = 121.680 (background)

a = 0.155 px

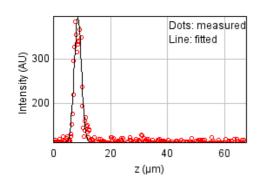
b = -0.037 px

b = -0.037 px

c = 0.087 px

xc = 5.582 pxyc = 4.938 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 73174.6245

Standard deviation: 15.43871

R^2: 0.91207 Parameters:

a = 112.02153

b = 395.44999

c = 8.65878

d = 1.25518

Date: Mon Oct 17 13:28:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 36.5 um (x), 89.2 um (y), 9.13 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	465 nm	481 nm	223 nm
max	674 nm	697 nm	223 nm
Z	1.61 um	1.61 um	885 nm
Asymmetry	0.69		
Theta	78.4°		

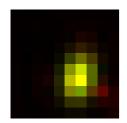
#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.928$$



Parameters:

A = 577.417 (brightness)

B = 124.512 (background)

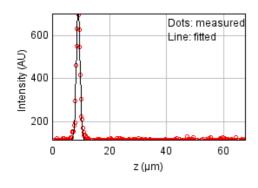
a = 0.607 px

b = 0.064 px

c = 0.309 px

xc = 5.786 pxyc = 5.735 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 21278.0504

Standard deviation: 8.32524

R^2: 0.98880 Parameters: a = 113.99332b = 709.23653

c = 9.12641

Date: Mon Oct 17 13:28:08 PDT 2022

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

Frame size: 10 pixels

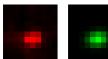
Coordinates: -128 um (x), 38.1 um (y), 9.03 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	431 nm	445 nm	223 nm
max	634 nm	655 nm	223 nm
Z	1.63 um	1.64 um	885 nm
Asymmetry	0.68		
Theta	8.0°		

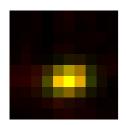
### XY profile & fitting parameters :

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





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



Parameters:

A = 376.420 (brightness)

B = 116.819 (background)

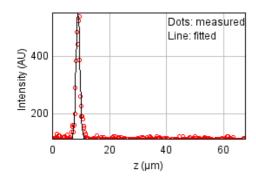
a = 0.342 px

b = 0.053 px

c = 0.716 px

xc = 4.919 pxyc = 5.861 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 48465.5475

Standard deviation: 12.56456

R^2: 0.95512 Parameters:

a = 112.52524

b = 550.51271

c = 9.03382

Date: Mon Oct 17 13:28:08 PDT 2022

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

Frame size: 10 pixels

Coordinates: 50.2 um (x), 26.2 um (y), 9.32 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	442 nm	457 nm	223 nm
max	561 nm	580 nm	223 nm
Z	1.82 um	1.83 um	885 nm
Asymmetry	0.788		
Theta	-53.4°		

#### 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 = 791.736 (brightness)

B = 123.242 (background)

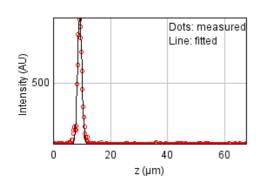
a = 0.595 px

b = -0.125 px

c = 0.519 px

xc = 6.310 pxyc = 5.896 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 69015.5621

Standard deviation: 14.99354

R^2: 0.98246 Parameters: a = 113.39445

a = 110.00<del>11</del>0

b = 916.97093

c = 9.32098

Date: Mon Oct 17 13:28:08 PDT 2022

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

Frame size: 10 pixels

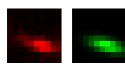
Coordinates: 101 um (x), 23.9 um (y), 8.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	379 nm	392 nm	223 nm
max	1.07 um	1.11 um	223 nm
Z	1.89 um	1.9 um	885 nm
Asymmetry	0.354		
Theta	-14.4°		

### XY profile & fitting parameters :

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



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



A = 335.664 (brightness)

B = 119.749 (background)

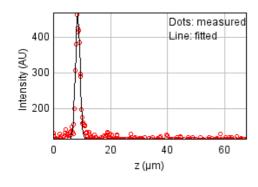
a = 0.168 px

b = -0.197 px

c = 0.884 px

xc = 5.890 pxyc = 6.322 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 41733.7672

Standard deviation: 11.65936

R^2: 0.94921 Parameters: a = 114.06821 b = 468.87605 c = 8.60360

# Bead 365 (Rejected)

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -64.7 um (x), -17.2 um (y), 7.44 um (z)

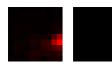
Corresponding bead: Not found

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	2.63 um	2.64 um	885 nm
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

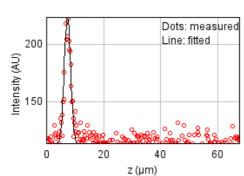
(red: the original data, green: the fit, yellow: the two merged)



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: 16222.7547

Standard deviation: 7.26931

R^2: 0.86239 Parameters: a = 113.73457 b = 223.36003 c = 7.43912

d = 1.11505

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -133 um (x), -17.4 um (y), 6.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	566 nm	585 nm	223 nm
max	813 nm	841 nm	223 nm
Z	2.73 um	2.74 um	885 nm
Asymmetry	0.696		
Theta	-56.3°		

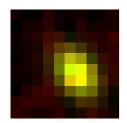
## XY profile & fitting parameters :

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





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



Parameters:

A = 123.539 (brightness)

B = 118.032 (background)

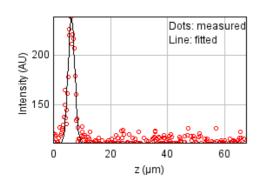
a = 0.352 px

b = -0.100 px

c = 0.269 px

xc = 5.580 pxyc = 5.280 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16523.0966

Standard deviation: 7.33629

R^2: 0.89464 Parameters: a = 111.57189 b = 237.99355

c = 6.39583

d = 1.15998

## Bead 367 (Rejected)

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -22.2 um (x), -62.3 um (y), 8.64 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	481 nm	498 nm	223 nm
max	598 nm	618 nm	223 nm
Z	1.41 um	1.41 um	885 nm
Asymmetry	0.806		
Theta	-86.8°		

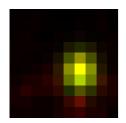
## XY profile & fitting parameters :

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





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



Parameters:

A = 471.759 (brightness)

B = 131.008 (background)

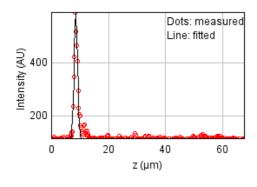
a = 0.578 px

b = -0.011 px

c = 0.376 px

xc = 6.010 pxyc = 5.239 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 44036.1311

Standard deviation: 11.97665

R^2: 0.95991 Parameters:

a = 114.39454

b = 590.10376

c = 8.63910

## Bead 368 (Rejected)

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -132 um (x), 93.3 um (y), 8.82 um (z)

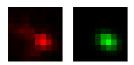
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	441 nm	456 nm	223 nm
max	594 nm	614 nm	223 nm
Z	1.83 um	1.84 um	885 nm
Asymmetry	0.742		
Theta	-28.3°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.884$ 



Parameters:

A = 391.581 (brightness)

B = 127.745 (background)

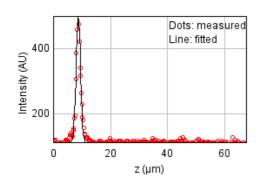
a = 0.450 px

b = -0.130 px

c = 0.621 px

xc = 5.839 pxyc = 5.806 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 26137.6049

Standard deviation: 9.22707

R^2: 0.97185 Parameters:

a = 111.59010

b = 498.73939

c = 8.81567

## Bead 369 (Rejected)

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -2.12 um (x), 92.8 um (y), 8.63 um (z)

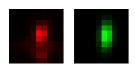
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

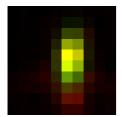
FWHM	Non corrected	Corrected	Theoretical
min	376 nm	388 nm	223 nm
max	778 nm	804 nm	223 nm
Z	1.12 um	1.12 um	885 nm
Asymmetry	0.483		
Theta	86.8°		

## XY profile & fitting parameters :

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



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



A = 602.479 (brightness)

B = 135.080 (background)

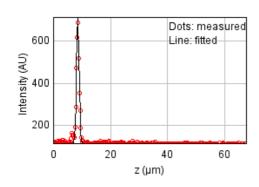
a = 0.948 px

b = 0.040 px

c = 0.224 px

xc = 5.352 pxyc = 4.392 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 24237.3821

Standard deviation: 8.88533

R^2: 0.98227

Parameters:

a = 114.86762

b = 715.20073

c = 8.62958

## Bead 370 (Rejected)

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: -100 um (x), 83.2 um (y), 9.94 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	514 nm	531 nm	223 nm
max	645 nm	667 nm	223 nm
Z	2.27 um	2.28 um	885 nm
Asymmetry	0.796		
Theta	15.2°		

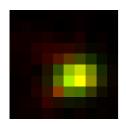
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.860$$



Parameters:

A = 565.455 (brightness)

B = 133.812 (background)

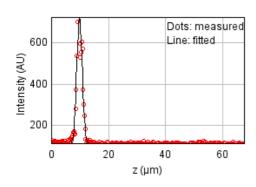
a = 0.335 px

b = 0.047 px

c = 0.496 px

xc = 5.656 pxyc = 5.687 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 117734.718

Standard deviation: 19.58317

R^2: 0.95895 Parameters:

a = 112.56893

b = 722.66528

c = 9.94076

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

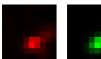
Coordinates: 88.1 um (x), 81.0 um (y), 9.46 um (z)

Corresponding bead: Not found

			_
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	423 nm	223 nm
max	622 nm	643 nm	223 nm
Z	1.66 um	1.66 um	885 nm
Asymmetry	0.657		
Theta	26.5°		

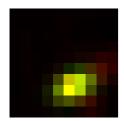
#### XY profile & fitting parameters :

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





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



Parameters:

A = 642.520 (brightness)

B = 123.975(background)

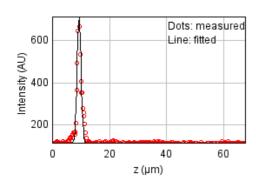
a = 0.437 px

b = 0.182 px

c = 0.710 px

xc = 5.459 pxyc = 6.595 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 87664.6158

Standard deviation: 16.89830

R^2: 0.95667 Parameters:

a = 114.64277

b = 710.06293

c = 9.45704

# Bead 372 (Rejected)

Date: Mon Oct 17 13:28:09 PDT 2022

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

Frame size: 10 pixels

Coordinates: 79.8 um (x), 79.9 um (y), 7.53 um (z)

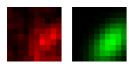
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

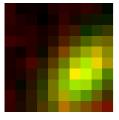
FWHM	Non corrected	Corrected	Theoretical
min	855 nm	883 nm	223 nm
max	1.45 um	1.5 um	223 nm
Z	1.24 um	1.24 um	885 nm
Asymmetry	0.587		
Theta	49.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.815$$



A = 81.809 (brightness)

B = 122.618 (background)

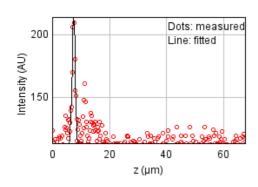
a = 0.132 px

b = 0.060 px

c = 0.115 px

xc = 6.707 pxyc = 6.037 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 23879.8377

Standard deviation: 8.81955

R^2: 0.63625

Parameters:

a = 113.31723

b = 214.00215

c = 7.53164

Date: Mon Oct 17 13:28:10 PDT 2022

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

Frame size: 10 pixels

Coordinates: -2.15 um (x), 61.1 um (y), 9.54 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	425 nm	223 nm
max	665 nm	688 nm	223 nm
Z	1.66 um	1.67 um	885 nm
Asymmetry	0.618		
Theta	-86.3°		

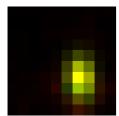
### XY profile & fitting parameters :

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





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



Parameters:

A = 746.222 (brightness)

B = 125.687 (background)

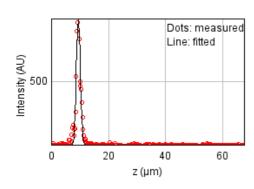
a = 0.793 px

b = -0.031 px

c = 0.305 px

xc = 6.237 pxyc = 6.078 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 132229.931

Standard deviation: 20.75371

R^2: 0.96089 Parameters: a = 115.40755 b = 884.99226 c = 9.53630

# Bead 374 (Rejected)

Date: Mon Oct 17 13:28:10 PDT 2022

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

Frame size: 10 pixels

Coordinates: -152 um (x), 56.6 um (y), 7.85 um (z)

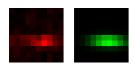
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

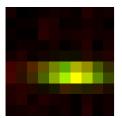
FWHM	Non corrected	Corrected	Theoretical
min	336 nm	347 nm	223 nm
max	1.05 um	1.09 um	223 nm
Z	1.81 um	1.82 um	885 nm
Asymmetry	0.319		
Theta	-1.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 124.087 (brightness)

B = 115.777 (background)

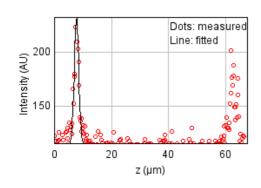
a = 0.122 px

b = -0.025 px

c = 1.189 px

xc = 5.717 pxyc = 5.648 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 58874.1958

Standard deviation: 13.84820

R^2: 0.58185 Parameters:

a = 115.44191

b = 232.87409

c = 7.84637

Date: Mon Oct 17 13:28:10 PDT 2022

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

Frame size: 10 pixels

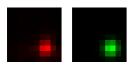
Coordinates: -32.9 um (x), 35.9 um (y), 9.92 um (z)

Corresponding bead: Not found

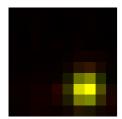
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	462 nm	223 nm
max	468 nm	484 nm	223 nm
Z	1.61 um	1.62 um	885 nm
Asymmetry	0.955		
Theta	70.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 817.785 (brightness)

B = 127.034 (background)

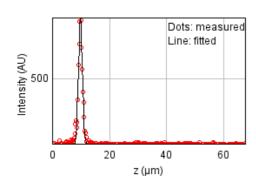
a = 0.666 px

b = 0.019 px

c = 0.620 px

xc = 6.623 pxyc = 7.009 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 56569.5021

Standard deviation: 13.57444

R^2: 0.98143 Parameters: a = 114.73860

b = 864.31842

c = 9.91727

# Bead 376 (Rejected)

Date: Mon Oct 17 13:28:10 PDT 2022

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

Frame size: 10 pixels

Coordinates: 34.9 um (x), 10.1 um (y), 9.16 um (z)

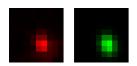
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

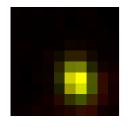
FWHM	Non corrected	Corrected	Theoretical
min	451 nm	466 nm	223 nm
max	585 nm	605 nm	223 nm
Z	1.7 um	1.71 um	885 nm
Asymmetry	0.77		
Theta	-72.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 627.892 (brightness)

B = 125.432 (background)

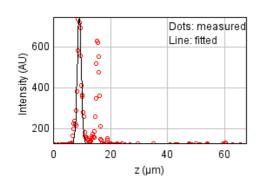
a = 0.636 px

b = -0.079 px

c = 0.417 px

xc = 5.686 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: 1244871.44

Standard deviation: 63.67853

R^2: 0.63446 Parameters:

a = 127.85017

b = 749.27071

c = 9.16262

Date: Mon Oct 17 13:28:10 PDT 2022

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

Frame size: 10 pixels

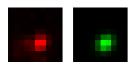
Coordinates: -89.7 um (x), -12.1 um (y), 9.3 um (z)

Corresponding bead: Not found

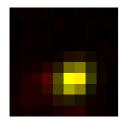
FWHM	Non corrected	Corrected	Theoretical
min	423 nm	437 nm	223 nm
max	511 nm	528 nm	223 nm
Z	1.77 um	1.77 um	885 nm
Asymmetry	0.829		
Theta	39.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 650.617 (brightness)

B = 128.329(background)

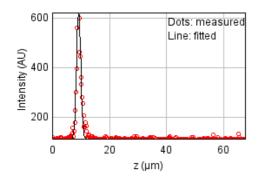
a = 0.610 px

b = 0.115 px

c = 0.655 px

xc = 5.415 pxyc = 6.109 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 62166.6302

Standard deviation: 14.23015

R^2: 0.96034 Parameters: a = 113.38838

b = 622.68782

c = 9.30457

# Bead 378 (Rejected)

Date: Mon Oct 17 13:28:10 PDT 2022

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

Frame size: 10 pixels

Coordinates: 147 um (x), -13.1 um (y), 7.28 um (z)

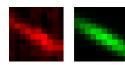
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

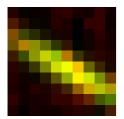
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	443 nm	223 nm
max	2.19 um	2.26 um	223 nm
Z	3.38 um	3.39 um	885 nm
Asymmetry	0.196		
Theta	-29.2°		

## XY profile & fitting parameters :

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



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



A = 103.286 (brightness) B = 111.364 (background)

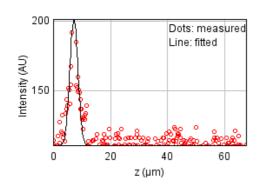
a = 0.195 px

b = -0.299 px

c = 0.563 px

xc = 5.402 pxyc = 5.368 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18924.7596

Standard deviation: 7.85138

R^2: 0.82145 Parameters:

a = 110.81532

b = 201.07098

c = 7.27612

# Bead 379 (Rejected)

Date: Mon Oct 17 13:28:11 PDT 2022

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

Frame size: 10 pixels

Coordinates: 146 um (x), -20.6 um (y), 7.92 um (z)

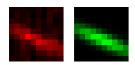
Corresponding bead: Not found

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

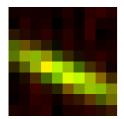
FWHM	Non corrected	Corrected	Theoretical
min	416 nm	430 nm	223 nm
max	2.18 um	2.25 um	223 nm
Z	1.88 um	1.89 um	885 nm
Asymmetry	0.191		
Theta	-23.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 91.218 (brightness) B = 110.697 (background)

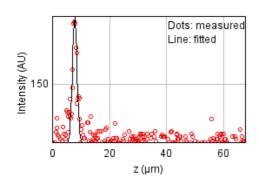
a = 0.146 px

b = -0.272 px

c = 0.659 px

xc = 4.705 pxyc = 5.584 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13152.9328

Standard deviation: 6.54549

R^2: 0.78380 Parameters:

a = 109.52583

b = 197.39017

c = 7.92203

# Bead 380 (Rejected)

Date: Mon Oct 17 13:28:11 PDT 2022

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

Frame size: 10 pixels

Coordinates: 97.1 um (x), -36.4 um (y), 6.32 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	559 nm	578 nm	223 nm
max	936 nm	968 nm	223 nm
Z	4.34 um	4.36 um	885 nm
Asymmetry	0.597		
Theta	52.3°		

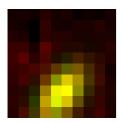
## XY profile & fitting parameters :

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





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



A = 148.908 (brightness)

B = 124.470 (background)

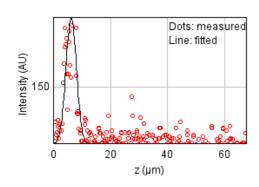
a = 0.326 px

b = 0.134 px

c = 0.256 px

xc = 4.455 pxyc = 7.246 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 29683.6745

Standard deviation: 9.83308

R^2: 0.76511 Parameters:

a = 111.96934

b = 196.84933

c = 6.32477

# Bead 381 (Rejected)

Date: Mon Oct 17 13:28:11 PDT 2022

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

Frame size: 10 pixels

Coordinates: 80.4 um (x), 79.5 um (y), 9.44 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	420 nm	434 nm	223 nm
max	695 nm	719 nm	223 nm
Z	2.07 um	2.07 um	885 nm
Asymmetry	0.604		
Theta	32.2°		

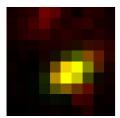
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.796$$



Parameters:

A = 427.705 (brightness)

B = 145.985 (background)

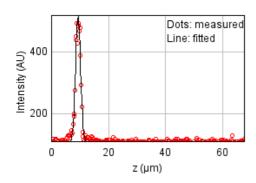
a = 0.415 px

b = 0.218 px

c = 0.624 px

xc = 5.475 pxyc = 5.493 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 39332.9229

Standard deviation: 11.31902

R^2: 0.96552 Parameters:

a = 111.91129

b = 516.01381

c = 9.44334

Date: Mon Oct 17 13:28:11 PDT 2022

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

Frame size: 10 pixels

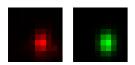
Coordinates: 27.9 um (x), 70.6 um (y), 9.68 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	463 nm	478 nm	223 nm
max	617 nm	638 nm	223 nm
Z	1.55 um	1.55 um	885 nm
Asymmetry	0.75		
Theta	88.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 979.042 (brightness)

B = 128.781 (background)

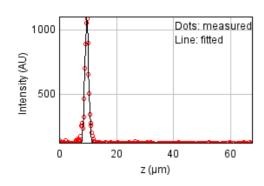
a = 0.627 px

b = 0.005 px

c = 0.352 px

xc = 5.706 pxyc = 6.043 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 85263.8176

Standard deviation: 16.66530

R^2: 0.98324 Parameters:

a = 114.98174

b = 1104.30116

c = 9.68417

# Bead 383 (Rejected)

Date: Mon Oct 17 13:28:11 PDT 2022

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

Frame size: 10 pixels

Coordinates: -82.4 um (x), 26.7 um (y), 10.4 um (z)

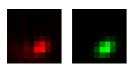
Corresponding bead: Not found

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

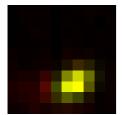
FWHM	Non corrected	Corrected	Theoretical
min	386 nm	399 nm	223 nm
max	554 nm	573 nm	223 nm
Z	3.5 um	3.51 um	885 nm
Asymmetry	0.697		
Theta	32.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 670.883 (brightness) B = 130.730 (background)

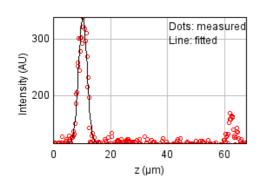
a = 0.569 px

b = 0.209 px

c = 0.769 px

xc = 5.659 pxyc = 6.702 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 47402.2685

Standard deviation: 12.42597

R^2: 0.92051 Parameters:

a = 115.96712

b = 338.94482

c = 10.39533

# Bead 384 (Rejected)

Date: Mon Oct 17 13:28:11 PDT 2022

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

Frame size: 10 pixels

Coordinates: 113 um (x), -4.72 um (y), 7.0 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	620 nm	641 nm	223 nm
max	931 nm	962 nm	223 nm
Z	3.2 um	3.21 um	885 nm
Asymmetry	0.666		
Theta	-34.2°		

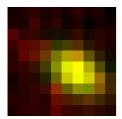
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.832$$



Parameters:

A = 103.961 (brightness)

B = 117.439 (background)

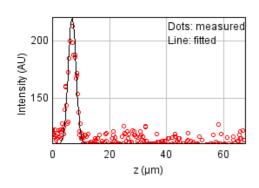
a = 0.216 px

b = -0.090 px

c = 0.287 px

xc = 5.814 pxyc = 5.432 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 19772.4432

Standard deviation: 8.02529

R^2: 0.86206

Parameters:

a = 110.27678

b = 220.49800

c = 7.00025

Date: Mon Oct 17 13:28:12 PDT 2022

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

Frame size: 10 pixels

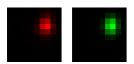
Coordinates: -62.5 um (x), -60.7 um (y), 53.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	415 nm	223 nm
max	525 nm	543 nm	223 nm
Z	1.17 um	1.18 um	885 nm
Asymmetry	0.764		
Theta	86.9°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.990$ 



Parameters:

A = 2076.940 (brightness)

B = 125.914 (background)

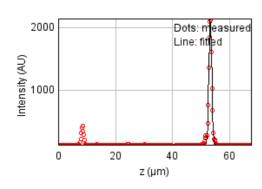
a = 0.831 px

b = 0.019 px

c = 0.487 px

xc = 6.683 pxyc = 2.869 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 445074.014

Standard deviation: 38.07562

R^2: 0.97306 Parameters: a = 123.62181 b = 2153.06080 c = 53.30069

# Bead 386 (Rejected)

Date: Mon Oct 17 13:28:12 PDT 2022

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

Frame size: 10 pixels

Coordinates: -135 um (x), -61.0 um (y), 8.59 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	398 nm	411 nm	223 nm
max	1.77 um	1.83 um	223 nm
Z	2.17 um	2.17 um	885 nm
Asymmetry	0.225		
Theta	43.8°		

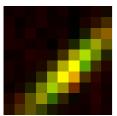
## XY profile & fitting parameters :

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





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



yc = 5.352 px

#### Parameters:

A = 137.559 (brightness)

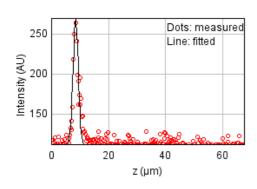
B = 115.299 (background)

a = 0.428 px

b = 0.402 px

c = 0.463 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25437.6323

Standard deviation: 9.10268

R^2: 0.87316 Parameters:

a = 111.93464

b = 269.50527

c = 8.58972

# Bead 387 (Rejected)

Date: Mon Oct 17 13:28:12 PDT 2022

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

Frame size: 10 pixels

Coordinates: -146 um (x), -67.4 um (y), 56.8 um (z)

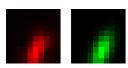
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	518 nm	535 nm	223 nm
max	1.16 um	1.19 um	223 nm
Z	1.13 um	1.13 um	885 nm
Asymmetry	0.448		
Theta	67.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 538.458 (brightness) B = 122.063 (background)

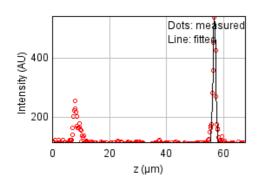
a = 0.439 px

b = 0.144 px

c = 0.162 px

xc = 5.119 pxyc = 7.262 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 125503.823

Standard deviation: 20.21898

R^2: 0.84472 Parameters: a = 115.72847 b = 541.92176

c = 56.80141

Date: Mon Oct 17 13:28:12 PDT 2022

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

Frame size: 10 pixels

Coordinates: -116 um (x), -72.8 um (y), 9.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	431 nm	446 nm	223 nm
max	1.15 um	1.18 um	223 nm
Z	2.01 um	2.02 um	885 nm
Asymmetry	0.376		
Theta	53.5°		

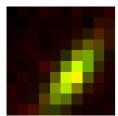
## XY profile & fitting parameters :

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





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



Parameters:

A = 224.029 (brightness)

B = 125.667 (background)

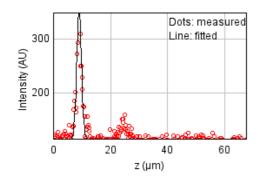
a = 0.503 px

b = 0.296 px

c = 0.322 px

xc = 5.611 pxyc = 5.798 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 46749.2907

Standard deviation: 12.34009

R^2: 0.88448 Parameters: a = 114.99736 b = 348.24078 c = 9.09784

Date: Mon Oct 17 13:28:12 PDT 2022

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

Frame size: 10 pixels

Coordinates: -73.1 um (x), 74.9 um (y), 9.83 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	499 nm	516 nm	223 nm
max	561 nm	580 nm	223 nm
Z	1.77 um	1.78 um	885 nm
Asymmetry	0.889		
Theta	-57.8°		

### XY profile & fitting parameters :

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





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



Parameters:

A = 434.949 (brightness)

B = 125.269 (background)

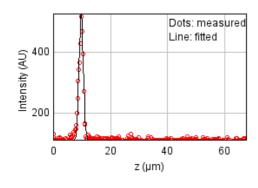
a = 0.506 px

b = -0.051 px

c = 0.458 px

xc = 5.687 pxyc = 5.360 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 42628.9954

Standard deviation: 11.78375

R^2: 0.95834 Parameters: a = 113.89181b = 524.65335c = 9.82524

Date: Mon Oct 17 13:28:12 PDT 2022

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

Frame size: 10 pixels

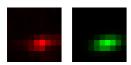
Coordinates: 106 um (x), 66.0 um (y), 9.74 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	380 nm	393 nm	223 nm
max	778 nm	805 nm	223 nm
Z	2.01 um	2.02 um	885 nm
Asymmetry	0.488		
Theta	10.6°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 472.813 (brightness)

B = 120.710 (background)

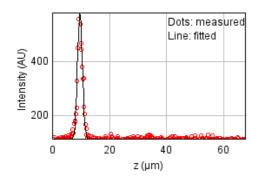
a = 0.246 px

b = 0.129 px

c = 0.906 px

xc = 5.918 pxyc = 6.143 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 47921.6111

Standard deviation: 12.49386

R^2: 0.96754 Parameters: a = 113.73138 b = 579.81728

c = 9.74152

Date: Mon Oct 17 13:28:12 PDT 2022

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

Frame size: 10 pixels

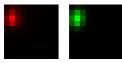
Coordinates: -117 um (x), 24.8 um (y), 63.3 um (z)

Corresponding bead: Not found

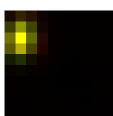
FWHM	Non corrected	Corrected	Theoretical
min	398 nm	411 nm	223 nm
max	544 nm	563 nm	223 nm
Z	1.13 um	1.14 um	885 nm
Asymmetry	0.731		
Theta	82.6°		

## XY profile & fitting parameters :

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



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



A = 1417.266 (brightness)

B = 117.942 (background)

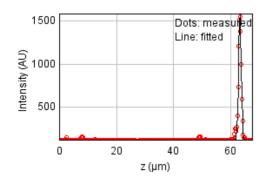
a = 0.841 px

b = 0.050 px

c = 0.459 px

xc = 0.975 pxyc = 2.080 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 83322.1592

Standard deviation: 16.47446

R^2: 0.98994 Parameters: a = 117.15529

b = 1590.04503

c = 63.30974

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

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

Frame size: 10 pixels

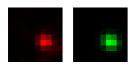
Coordinates: 75.1 um (x), 12.4 um (y), 9.86 um (z)

Corresponding bead: Not found

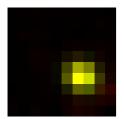
FWHM	Non corrected	Corrected	Theoretical
min	426 nm	441 nm	223 nm
max	487 nm	503 nm	223 nm
Z	1.69 um	1.69 um	885 nm
Asymmetry	0.875		
Theta	-25.9°		

### XY profile & fitting parameters :

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



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



A = 721.568 (brightness)

B = 119.734 (background)

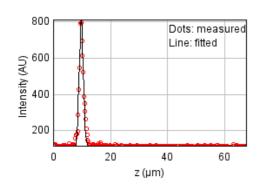
a = 0.599 px

b = -0.068 px

c = 0.705 px

xc = 6.351 pxyc = 5.831 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 88783.3925

Standard deviation: 17.00578

R^2: 0.96818 Parameters:

a = 114.50094

b = 811.67074

c = 9.86121

# Bead 393 (Rejected)

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

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

Frame size: 10 pixels

Coordinates: 146 um (x), -20.6 um (y), 7.92 um (z)

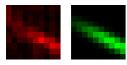
Corresponding bead: Not found

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

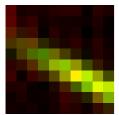
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	404 nm	223 nm
max	2.43 um	2.51 um	223 nm
Z	1.88 um	1.89 um	885 nm
Asymmetry	0.161		
Theta	-26.7°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.851$$



A = 88.843 (brightness)

B = 111.774 (background)

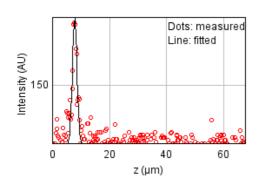
a = 0.196 px

b = -0.344 px

c = 0.706 px

xc = 7.601 pxyc = 6.621 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13152.9328

Standard deviation: 6.54549

R^2: 0.78380

Parameters:

a = 109.52583

b = 197.39017

c = 7.92203

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

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

Frame size: 10 pixels

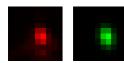
Coordinates: 4.11 um (x), -43.6 um (y), 9.54 um (z)

Corresponding bead: Not found

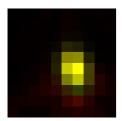
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	420 nm	223 nm
max	566 nm	585 nm	223 nm
Z	1.55 um	1.56 um	885 nm
Asymmetry	0.718		
Theta	-76.2°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.928$$



Parameters:

A = 749.908 (brightness)

B = 134.942 (background)

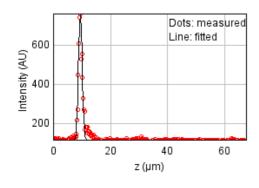
a = 0.789 px

b = -0.091 px

c = 0.441 px

xc = 5.659 pxyc = 5.116 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 85562.2274

Standard deviation: 16.69444

R^2: 0.96181 Parameters: a = 116.44778 b = 764.52257

c = 9.54352

# Bead 395 (Rejected)

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

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

Frame size: 10 pixels

Coordinates: -61.8 um (x), -71.7 um (y), 10.4 um (z)

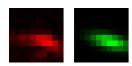
Corresponding bead: Not found

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

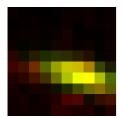
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	418 nm	223 nm
max	1.18 um	1.22 um	223 nm
Z	1.92 um	1.93 um	885 nm
Asymmetry	0.343		
Theta	-14.3°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.910$$



Parameters:

A = 403.916 (brightness)

B = 129.420 (background)

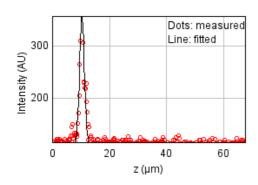
a = 0.141 px

b = -0.174 px

c = 0.778 px

xc = 6.148 pxyc = 5.736 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39085.9464

Standard deviation: 11.28343

R^2: 0.90790 Parameters:

a = 112.83509

b = 360.24252

c = 10.44039

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

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

Frame size: 10 pixels

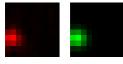
Coordinates: -91.6 um (x), -79.2 um (y), 20.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	511 nm	528 nm	223 nm
max	584 nm	604 nm	223 nm
Z	1.44 um	1.44 um	885 nm
Asymmetry	0.875		
Theta	-6.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 658.023 (brightness)

B = 118.879 (background)

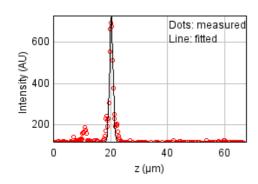
a = 0.395 px

b = -0.014 px

c = 0.512 px

xc = 0.666 pxyc = 6.100 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 109814.580

Standard deviation: 18.91302

R^2: 0.94299 Parameters: a = 117.54157 b = 735.21488 c = 20.36487

# Bead 397 (Rejected)

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

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

Frame size: 10 pixels

Coordinates: 149 um (x), 96.5 um (y), 8.79 um (z)

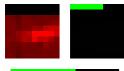
Corresponding bead: Not found

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	7.02 um	7.25 um	223 nm
Z	2.95 um	2.97 um	885 nm
Asymmetry	0.291		
Theta	0.8°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.787$$



Parameters:

A = 304.630 (brightness)

B = -111.662 (background)

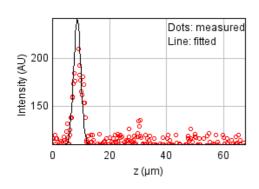
a = 0.003 px

b = 0.000 px

c = 0.032 px

xc = 7.870 pxyc = 5.487 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 27600.3017

Standard deviation: 9.48173

R^2: 0.85338 Parameters:

a = 110.68126

b = 241.10678

c = 8.79155

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

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

Frame size: 10 pixels

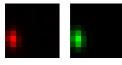
Coordinates: -48.9 um (x), 27.3 um (y), 42.7 um (z)

Corresponding bead: Not found

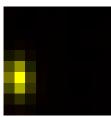
FWHM	Non corrected	Corrected	Theoretical
min	352 nm	363 nm	223 nm
max	538 nm	556 nm	223 nm
Z	1.27 um	1.27 um	885 nm
Asymmetry	0.654		
Theta	-83.7°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.997$ 



Parameters:

A = 1694.536 (brightness)

B = 116.754 (background)

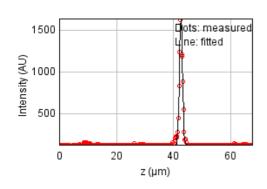
a = 1.078 px

b = -0.068 px

c = 0.472 px

xc = 0.863 pxyc = 6.066 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 203185.336

Standard deviation: 25.72628

R^2: 0.97945 Parameters: a = 118.85693 b = 1635.69452 c = 42.66057

# Bead 399 (Rejected)

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

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

Frame size: 10 pixels

Coordinates: -82.4 um (x), 26.7 um (y), 10.4 um (z)

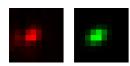
Corresponding bead: Not found

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

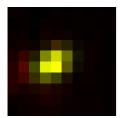
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	400 nm	223 nm
max	556 nm	575 nm	223 nm
Z	3.5 um	3.51 um	885 nm
Asymmetry	0.697		
Theta	32.3°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.934$$



Parameters:

A = 670.142 (brightness)

B = 129.821 (background)

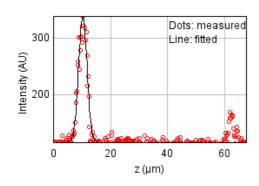
a = 0.565 px

b = 0.208 px

c = 0.763 px

xc = 3.659 pxyc = 4.702 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 47402.2685

Standard deviation: 12.42597

R^2: 0.92051 Parameters:

a = 115.96712

b = 338.94482

c = 10.39533

Date: Mon Oct 17 13:28:14 PDT 2022

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

Frame size: 10 pixels

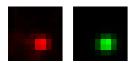
Coordinates: -114 um (x), 23.9 um (y), 9.33 um (z)

Corresponding bead: Not found

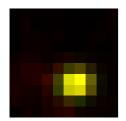
FWHM	Non corrected	Corrected	Theoretical
min	427 nm	441 nm	223 nm
max	491 nm	508 nm	223 nm
Z	1.5 um	1.51 um	885 nm
Asymmetry	0.869		
Theta	8.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 520.145 (brightness)

B = 126.454 (background)

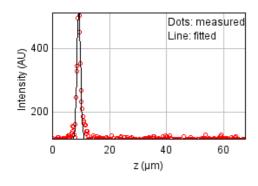
a = 0.560 px

b = 0.027 px

c = 0.732 px

xc = 5.604 pxyc = 6.391 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 40992.5006

Standard deviation: 11.55535

R^2: 0.95153 Parameters: a = 113.59105 b = 515.81855 c = 9.33017