# Bead 801 (Rejected)

Date: Mon Oct 17 13:51:30 PDT 2022

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

Frame size: 12 pixels

Coordinates: 35.8 um (x), -6.25 um (y), 11.1 um (z)

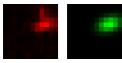
Corresponding bead: Not found

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

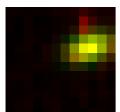
FWHM	Non corrected	Corrected	Theoretical
min	519 nm	541 nm	270 nm
max	839 nm	874 nm	270 nm
Z	3.85 um	3.86 um	1.3 um
Asymmetry	0.619		
Theta	17.2°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.865$$



Parameters:

A = 252.140 (brightness)

B = 117.564 (background)

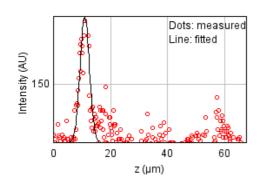
a = 0.217 px

b = 0.087 px

c = 0.471 px

xc = 8.705 pxyc = 3.897 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 20807.5398

Standard deviation: 8.23268

R^2: 0.76194 Parameters:

a = 115.88913

b = 190.28846

c = 11.08007

Date: Mon Oct 17 13:51:30 PDT 2022

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

Frame size: 12 pixels

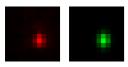
Coordinates: -22.2 um (x), -30.9 um (y), 16.2 um (z)

Corresponding bead: Not found

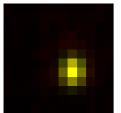
FWHM	Non corrected	Corrected	Theoretical
min	393 nm	410 nm	270 nm
max	508 nm	529 nm	270 nm
Z	2.06 um	2.06 um	1.3 um
Asymmetry	0.774		
Theta	89.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 736.293 (brightness)

B = 126.412 (background)

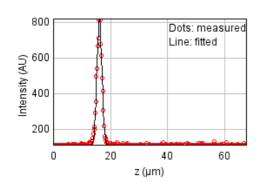
a = 0.867 px

b = 0.005 px

c = 0.519 px

xc = 7.064 pxyc = 6.874 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22787.5201

Standard deviation: 8.61548

R^2: 0.99328 Parameters:

a = 113.96905

b = 822.19697

c = 16.20785

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

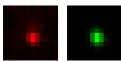
Coordinates: -117 um (x), -34.3 um (y), 15.7 um (z)

Corresponding bead: Not found

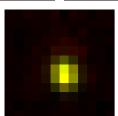
FWHM	Non corrected	Corrected	Theoretical
min	441 nm	459 nm	270 nm
max	518 nm	539 nm	270 nm
Z	2.42 um	2.43 um	1.3 um
Asymmetry	0.851		
Theta	-75.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 315.886 (brightness)

B = 117.906 (background)

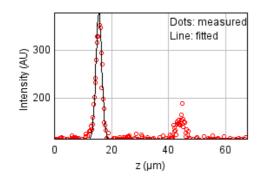
a = 0.679 px

b = -0.046 px

c = 0.513 px

xc = 6.059 pxyc = 6.556 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 50516.2212

Standard deviation: 12.82762

R^2: 0.91458 Parameters:

a = 115.16412

b = 377.69115

c = 15.66468

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

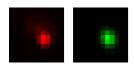
Coordinates: 137 um (x), -54.5 um (y), 16.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	467 nm	487 nm	270 nm
max	584 nm	608 nm	270 nm
Z	2.35 um	2.36 um	1.3 um
Asymmetry	0.801		
Theta	-73.0°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 695.739 (brightness)

B = 128.636 (background)

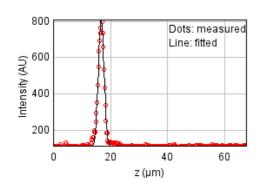
a = 0.596 px

b = -0.062 px

c = 0.413 px

xc = 7.183 pxyc = 6.295 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 35169.8153

Standard deviation: 10.70325

R^2: 0.99066 Parameters:

a = 111.47032

b = 811.43241

c = 16.82350

## Bead 805 (Rejected)

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

Coordinates: 3.81 um (x), -62.4 um (y), 13.6 um (z)

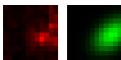
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	938 nm	977 nm	270 nm
max	1.46 um	1.52 um	270 nm
Z	1.82 um	1.83 um	1.3 um
Asymmetry	0.641		
Theta	38.1°		

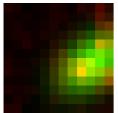
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.700$$



xc = 9.327 pxyc = 5.986 px

#### Parameters:

A = 85.649 (brightness)

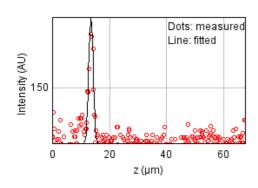
B = 112.038 (background)

a = 0.097 px

b = 0.044 px

c = 0.118 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13254.2035

Standard deviation: 6.57064

R^2: 0.76083

Parameters:

a = 112.87767

b = 196.78475

c = 13.58730

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

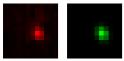
Coordinates: -63.8 um (x), 83.7 um (y), 16.0 um (z)

Corresponding bead: Not found

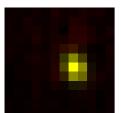
FWHM	Non corrected	Corrected	Theoretical
min	371 nm	386 nm	270 nm
max	492 nm	513 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.753		
Theta	-69.2°		

## 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 = 367.650 (brightness)

B = 120.802 (background)

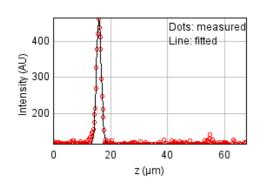
a = 0.923 px

b = -0.140 px

c = 0.607 px

xc = 7.189 pxyc = 6.050 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15344.0415

Standard deviation: 7.06970

R^2: 0.98160 Parameters: a = 114.18210 b = 466.81019

c = 16.01678

# Bead 807 (Rejected)

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

Coordinates: 114 um (x), 80.3 um (y), 15.9 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	486 nm	507 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.886		
Theta	-76.7°		

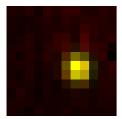
## XY profile & fitting parameters :

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





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



Parameters:

A = 279.960 (brightness)

B = 118.342 (background)

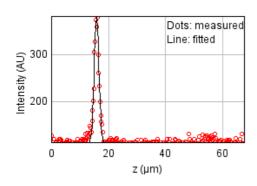
a = 0.714 px

b = -0.035 px

c = 0.575 px

xc = 7.316 pxyc = 6.277 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 20103.2081

Standard deviation: 8.09214

R^2: 0.95856 Parameters:

a = 113.37147

b = 383.03417

c = 15.91643

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

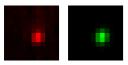
Coordinates: 134 um (x), 72.0 um (y), 16.2 um (z)

Corresponding bead: Not found

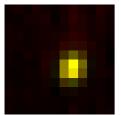
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	496 nm	517 nm	270 nm
Z	2.39 um	2.4 um	1.3 um
Asymmetry	0.824		
Theta	71.8°		

## XY profile & fitting parameters :

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



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



A = 390.396 (brightness)

B = 119.993 (background)

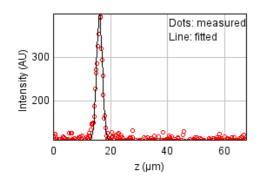
a = 0.777 px

b = 0.076 px

c = 0.570 px

xc = 6.882 pxyc = 6.392 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24625.8022

Standard deviation: 8.95625

R^2: 0.96268 Parameters: a = 111.69557 b = 398.29849

c = 16.21026

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

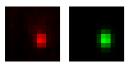
Coordinates: 7.13 um (x), 54.7 um (y), 16.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	565 nm	589 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.707		
Theta	-87.5°		

## XY profile & fitting parameters :

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



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



A = 542.400 (brightness)

B = 125.196 (background)

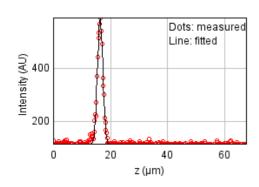
a = 0.841 px

b = -0.019 px

c = 0.421 px

xc = 7.393 pxyc = 6.741 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23849.6635

Standard deviation: 8.81398

R^2: 0.98559 Parameters: a = 114.54920 b = 589.24409

c = 16.45806

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

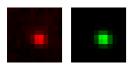
Coordinates: 133 um (x), 54.1 um (y), 15.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	455 nm	474 nm	270 nm
max	500 nm	521 nm	270 nm
Z	2.5 um	2.51 um	1.3 um
Asymmetry	0.91		
Theta	-22.5°		

## XY profile & fitting parameters :

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



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



A = 303.587 (brightness)

B = 118.930 (background)

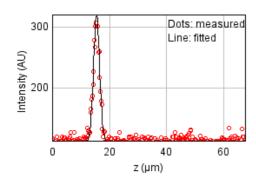
a = 0.553 px

b = -0.039 px

c = 0.632 px

xc = 6.601 pxyc = 6.385 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 15432.1040

Standard deviation: 7.08995

R^2: 0.95821 Parameters: a = 111.52245 b = 320.93917

c = 15.55704

# Bead 811 (Rejected)

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

Coordinates: 151 um (x), 5.84 um (y), 16.2 um (z)

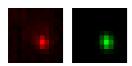
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

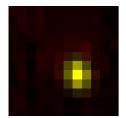
FWHM	Non corrected	Corrected	Theoretical
min	398 nm	414 nm	270 nm
max	519 nm	540 nm	270 nm
Z	2.28 um	2.29 um	1.3 um
Asymmetry	0.767		
Theta	-79.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 220.800 (brightness) B = 117.591 (background)

a = 0.836 px

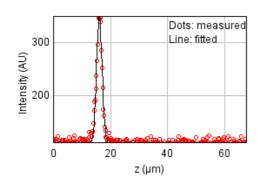
b = -0.066 px

D = -0.000 px

c = 0.512 px

xc = 7.073 pxyc = 6.954 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15542.9288

Standard deviation: 7.11537

R^2: 0.96446 Parameters:

a = 110.93493

b = 349.67873

c = 16.17948

Date: Mon Oct 17 13:51:31 PDT 2022

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

Frame size: 12 pixels

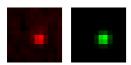
Coordinates: -133 um (x), -7.22 um (y), 15.4 um (z)

Corresponding bead: Not found

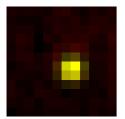
FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	418 nm	435 nm	270 nm
Z	2.46 um	2.47 um	1.3 um
Asymmetry	0.969		
Theta	36.5°		

## XY profile & fitting parameters :

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



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



A = 221.793 (brightness)

B = 115.026(background)

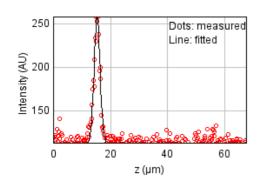
a = 0.785 px

b = 0.024 px

c = 0.800 px

xc = 6.601 pxyc = 6.336 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15418.2032

Standard deviation: 7.08676

R^2: 0.91606 Parameters: a = 112.85153

b = 258.22256

c = 15.38023

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

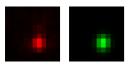
Coordinates: -35.0 um (x), -33.4 um (y), 16.8 um (z)

Corresponding bead: Not found

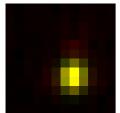
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	465 nm	270 nm
max	530 nm	552 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.844		
Theta	85.7°		

### XY profile & fitting parameters :

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



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



A = 704.292 (brightness)

B = 125.870 (background)

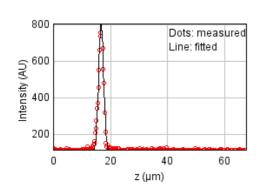
a = 0.671 px

b = 0.015 px

c = 0.480 px

xc = 6.880 pxyc = 7.453 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 49571.9692

Standard deviation: 12.70717

R^2: 0.98460 Parameters: a = 114.33869 b = 808.48573

c = 16.79943

## Bead 814 (Rejected)

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

Coordinates: -61.1 um (x), -61.3 um (y), 59.3 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	899 nm	936 nm	270 nm
max	1.11 um	1.16 um	270 nm
Z	1.3 um	1.31 um	1.3 um
Asymmetry	0.809		
Theta	68.4°		

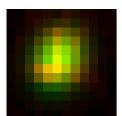
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.877$$



Parameters:

A = 210.718 (brightness)

B = 115.866 (background)

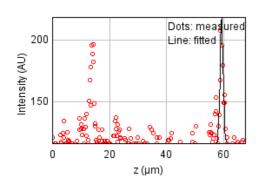
a = 0.158 px

b = 0.020 px

c = 0.117 px

xc = 5.185 pxyc = 4.955 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 55580.2675

Standard deviation: 13.45523

R^2: 0.44951 Parameters:

a = 116.49294

b = 218.93721

c = 59.34603

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

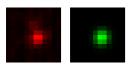
Coordinates: 53.6 um (x), -83.5 um (y), 16.2 um (z)

Corresponding bead: Not found

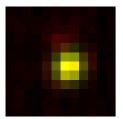
FWHM	Non corrected	Corrected	Theoretical
min	514 nm	536 nm	270 nm
max	562 nm	585 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.915		
Theta	74.5°		

### XY profile & fitting parameters :

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



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



A = 304.956 (brightness)

B = 118.566 (background)

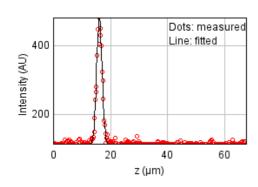
a = 0.502 px

b = 0.021 px

c = 0.431 px

xc = 6.417 pxyc = 6.071 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28588.1753

Standard deviation: 9.64993

R^2: 0.97237 Parameters:

a = 112.74809

b = 484.38536

c = 16.18706

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

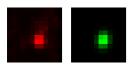
Coordinates: -118 um (x), -92.0 um (y), 16.1 um (z)

Corresponding bead : Not found

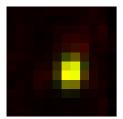
FWHM	Non corrected	Corrected	Theoretical
min	412 nm	429 nm	270 nm
max	531 nm	554 nm	270 nm
Z	2.43 um	2.44 um	1.3 um
Asymmetry	0.774		
Theta	81.1°		

## XY profile & fitting parameters :

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



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



A = 428.882 (brightness)

B = 121.012 (background)

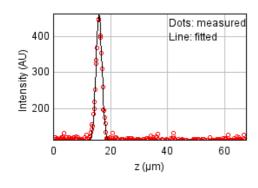
a = 0.785 px

b = 0.049 px

c = 0.483 px

xc = 6.536 pxyc = 6.628 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21640.9431

Standard deviation: 8.39593

R^2: 0.97798 Parameters:

a = 112.44079

b = 462.25198

c = 16.05039

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

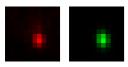
Coordinates: -46.7 um (x), 78.9 um (y), 16.6 um (z)

Corresponding bead: Not found

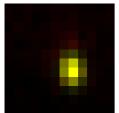
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	406 nm	270 nm
max	541 nm	564 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.719		
Theta	-83.4°		

## XY profile & fitting parameters :

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



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



A = 483.990 (brightness)

B = 123.404 (background)

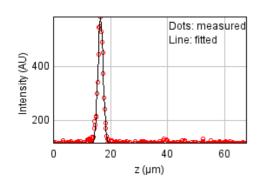
a = 0.879 px

b = -0.049 px

c = 0.463 px

xc = 6.858 pxyc = 6.748 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22415.2686

Standard deviation: 8.54482

R^2: 0.98564 Parameters:

a = 114.73257

b = 587.81196

c = 16.59225

## Bead 818 (Rejected)

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

Coordinates: 52.8 um (x), 70.1 um (y), 57.5 um (z)

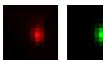
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	412 nm	429 nm	270 nm
max	584 nm	608 nm	270 nm
Z	2.16 um	2.16 um	1.3 um
Asymmetry	0.706		
Theta	-83.5°		

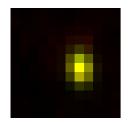
## XY profile & fitting parameters :

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





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



Parameters:

A = 748.811 (brightness)

B = 130.143 (background)

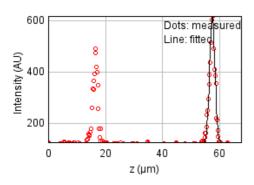
a = 0.786 px

b = -0.045 px

c = 0.399 px

xc = 7.115 pxyc = 6.001 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 812993.395

Standard deviation: 51.46054

R^2: 0.67552 Parameters:

a = 125.60330

b = 616.50860

c = 57.47933

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

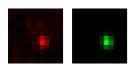
Coordinates: -135 um (x), 63.1 um (y), 15.8 um (z)

Corresponding bead: Not found

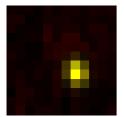
FWHM	Non corrected	Corrected	Theoretical
min	346 nm	360 nm	270 nm
max	451 nm	469 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.768		
Theta	-78.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 261.331 (brightness)

B = 118.848 (background)

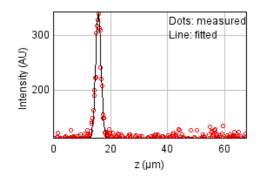
a = 1.102 px

b = -0.093 px

c = 0.680 px

xc = 7.150 pxyc = 6.794 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 17894.5444

Standard deviation: 7.63469

R^2: 0.95534 Parameters:

a = 112.39896

b = 342.16374

c = 15.83029

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

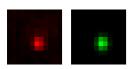
Coordinates: 149 um (x), 52.9 um (y), 16.0 um (z)

Corresponding bead : Not found

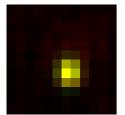
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	498 nm	519 nm	270 nm
Z	2.87 um	2.88 um	1.3 um
Asymmetry	0.805		
Theta	-89.1°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 306.403 (brightness)

B = 117.529 (background)

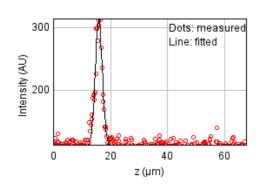
a = 0.835 px

b = -0.005 px

c = 0.541 px

xc = 6.318 pxyc = 6.875 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21940.7791

Standard deviation: 8.45389

R^2: 0.94523 Parameters:

a = 111.47614

b = 314.56466

c = 15.98182

## Bead 821 (Rejected)

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

Coordinates: 36.8 um (x), 42.1 um (y), 57.9 um (z)

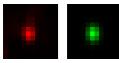
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

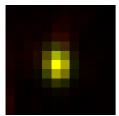
FWHM	Non corrected	Corrected	Theoretical
min	445 nm	463 nm	270 nm
max	584 nm	609 nm	270 nm
Z	2.58 um	2.59 um	1.3 um
Asymmetry	0.761		
Theta	-87.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 995.635 (brightness)

B = 145.288 (background)

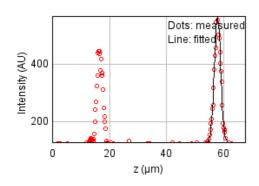
a = 0.677 px

b = -0.012 px

c = 0.393 px

xc = 5.189 pxyc = 5.957 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 937344.953

Standard deviation: 55.25614

R^2: 0.63170 Parameters:

a = 128.18586

b = 567.49034

c = 57.90970

Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

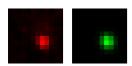
Coordinates: 121 um (x), 38.7 um (y), 15.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	450 nm	469 nm	270 nm
max	517 nm	538 nm	270 nm
Z	2.2 um	2.21 um	1.3 um
Asymmetry	0.87		
Theta	-71.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 319.402 (brightness)

B = 118.212 (background)

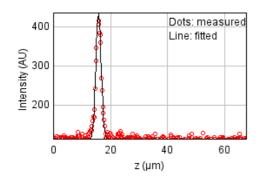
a = 0.647 px

b = -0.048 px

c = 0.518 px

xc = 7.217 pxyc = 6.718 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23717.1709

Standard deviation: 8.78946

R^2: 0.96935 Parameters: a = 112.57298

b = 436.03880

c = 15.89324

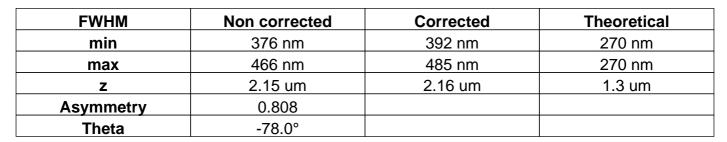
Date: Mon Oct 17 13:51:32 PDT 2022

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

Frame size: 12 pixels

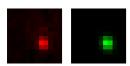
Coordinates: 132 um (x), 28.9 um (y), 15.8 um (z)

Corresponding bead: Not found

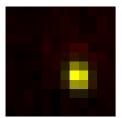


### XY profile & fitting parameters :

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



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



A = 314.870 (brightness)

B = 117.459 (background)

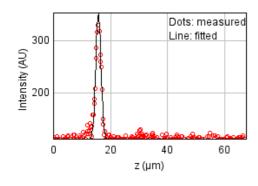
a = 0.934 px

b = -0.067 px

c = 0.633 px

xc = 7.412 pxyc = 7.112 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18365.6210

Standard deviation: 7.73452

R^2: 0.95670 Parameters:

a = 112.37763

b = 353.15665

c = 15.84211

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

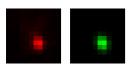
Coordinates: -5.6 um (x), 14.6 um (y), 16.8 um (z)

Corresponding bead: Not found

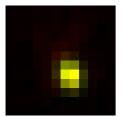
FWHM	Non corrected	Corrected	Theoretical
min	393 nm	410 nm	270 nm
max	507 nm	528 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.775		
Theta	-73.5°		

## XY profile & fitting parameters :

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



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



A = 710.995 (brightness)

B = 128.799 (background)

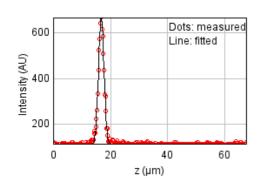
a = 0.840 px

b = -0.094 px

c = 0.550 px

xc = 6.552 pxyc = 7.089 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18763.5406

Standard deviation: 7.81787

R^2: 0.99172 Parameters:

a = 113.21568

b = 668.22485

c = 16.84273

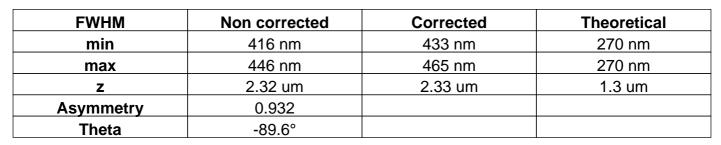
Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

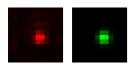
Coordinates: -144 um (x), 12.0 um (y), 16.5 um (z)

Corresponding bead: Not found

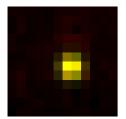


## XY profile & fitting parameters :

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



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



A = 412.347 (brightness)

B = 117.708 (background)

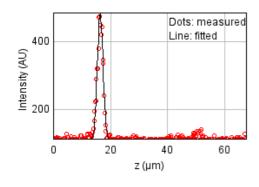
a = 0.775 px

b = -0.001 px

c = 0.674 px

xc = 6.442 pxyc = 6.102 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 35142.6678

Standard deviation: 10.69912

R^2: 0.96723 Parameters: a = 112.56321 b = 483.97744 c = 16.46791

# Bead 826 (Rejected)

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

Coordinates: -55.7 um (x), -23.4 um (y), 15.1 um (z)

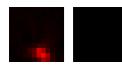
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	4.51 um	4.53 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

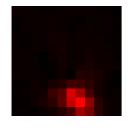
## XY profile & fitting parameters :

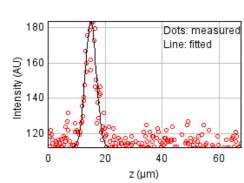
(red: the original data, green: the fit, yellow: the two merged)



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: 14976.1819

Standard deviation: 6.98444

R^2: 0.82565 Parameters: a = 112.13518 b = 183.61253

c = 15.08648

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

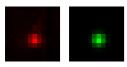
Coordinates: -74.4 um (x), -44.3 um (y), 16.4 um (z)

Corresponding bead: Not found

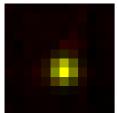
FWHM	Non corrected	Corrected	Theoretical
min	449 nm	468 nm	270 nm
max	454 nm	473 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.989		
Theta	74.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 554.547 (brightness)

B = 122.806 (background)

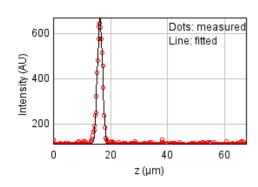
a = 0.663 px

b = 0.004 px

c = 0.651 px

xc = 5.966 pxyc = 6.782 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25090.1466

Standard deviation: 9.04029

R^2: 0.98862 Parameters: a = 112.45891

b = 673.52359

c = 16.39406

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

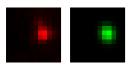
Coordinates: 87.9 um (x), -61.3 um (y), 19.7 um (z)

Corresponding bead: Not found

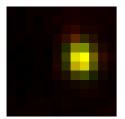
FWHM	Non corrected	Corrected	Theoretical
min	488 nm	509 nm	270 nm
max	587 nm	611 nm	270 nm
Z	2.0 um	2.0 um	1.3 um
Asymmetry	0.832		
Theta	-78.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 570.556 (brightness)

B = 125.459 (background)

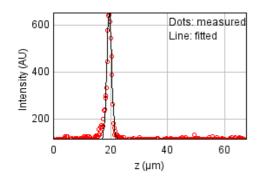
a = 0.556 px

b = -0.034 px

c = 0.396 px

xc = 7.632 pxyc = 5.202 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 56430.9128

Standard deviation: 13.55780

R^2: 0.97099 Parameters:

a = 114.47572

b = 652.60545

c = 19.65247

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

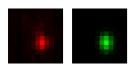
Coordinates: 79.4 um (x), -89.6 um (y), 16.3 um (z)

Corresponding bead: Not found

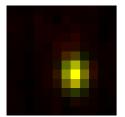
FWHM	Non corrected	Corrected	Theoretical
min	434 nm	452 nm	270 nm
max	591 nm	616 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.734		
Theta	-87.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 389.094 (brightness)

B = 120.237 (background)

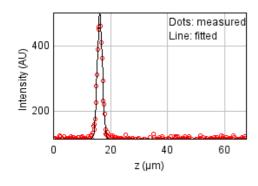
a = 0.713 px

b = -0.016 px

c = 0.385 px

xc = 6.904 pxyc = 6.952 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 14801.2003

Standard deviation: 6.94351

R^2: 0.98571 Parameters: a = 113.68584 b = 503.77965

c = 16.34116

## Bead 830 (Rejected)

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

Coordinates: 158 um (x), 86.6 um (y), 15.5 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	494 nm	515 nm	270 nm
max	635 nm	661 nm	270 nm
Z	2.45 um	2.46 um	1.3 um
Asymmetry	0.778		
Theta	82.5°		

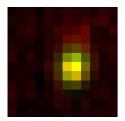
## XY profile & fitting parameters :

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





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



Parameters:

A = 129.896 (brightness)

B = 117.400 (background)

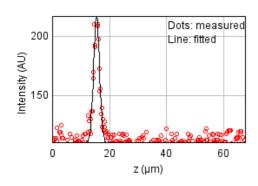
a = 0.546 px

b = 0.028 px

c = 0.337 px

xc = 6.706 pxyc = 6.016 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 11380.3790

Standard deviation: 6.08848

R^2: 0.88805

Parameters:

a = 110.11498

b = 216.87967

c = 15.54599

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

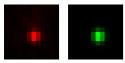
Coordinates: -103 um (x), 27.7 um (y), 16.7 um (z)

Corresponding bead: Not found

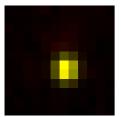
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	417 nm	270 nm
max	460 nm	480 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.868		
Theta	88.4°		

## XY profile & fitting parameters :

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



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



A = 523.759 (brightness)

B = 122.847 (background)

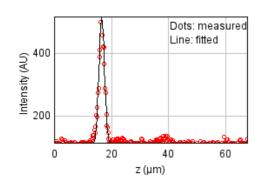
a = 0.839 px

b = 0.006 px

c = 0.633 px

xc = 6.194 pxyc = 6.435 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39405.2430

Standard deviation: 11.32942

R^2: 0.96741 Parameters: a = 115.81011

b = 516.23709

c = 16.65315

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

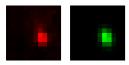
Coordinates: 15.7 um (x), 5.72 um (y), 16.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	398 nm	414 nm	270 nm
max	572 nm	596 nm	270 nm
Z	2.52 um	2.53 um	1.3 um
Asymmetry	0.695		
Theta	-75.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 407.823 (brightness)

B = 124.153 (background)

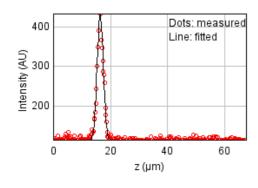
a = 0.820 px

b = -0.108 px

c = 0.438 px

xc = 7.370 pxyc = 6.496 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 17795.2231

Standard deviation: 7.61347

R^2: 0.97902 Parameters: a = 113.03462 b = 432.59037

c = 16.47618

# Bead 833 (Rejected)

Date: Mon Oct 17 13:51:33 PDT 2022

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

Frame size: 12 pixels

Coordinates: -70.2 um (x), 110 nm (y), 14.1 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.45 um	3.47 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

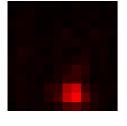
### XY profile & fitting parameters :

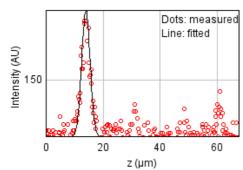
(red: the orignal data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





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

Sum of residuals squared: 16703.3594

Standard deviation: 7.37620

R^2: 0.81270 Parameters: a = 113.68566 b = 195.20126 c = 14.07329

# Bead 834 (Rejected)

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

Coordinates: -150 um (x), -18.2 um (y), 15.0 um (z)

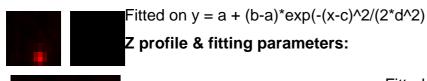
Corresponding bead: Not found

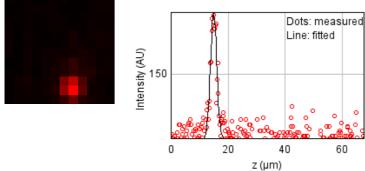
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	2.58 um	2.59 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

### XY profile & fitting parameters :

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





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 12845.6834

Standard deviation: 6.46859

R^2: 0.79165 Parameters: a = 111.09965 b = 187.66974 c = 15.01988

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

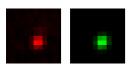
Coordinates: -152 um (x), -35.3 um (y), 16.6 um (z)

Corresponding bead: Not found

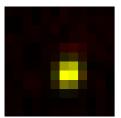
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	420 nm	270 nm
max	471 nm	491 nm	270 nm
Z	2.39 um	2.4 um	1.3 um
Asymmetry	0.857		
Theta	69.3°		

## XY profile & fitting parameters :

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



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



A = 414.852 (brightness)

B = 118.626 (background)

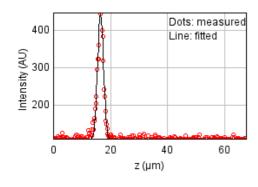
a = 0.796 px

b = 0.072 px

c = 0.632 px

xc = 6.500 pxyc = 6.811 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21585.3444

Standard deviation: 8.38514

R^2: 0.97579 Parameters: a = 111.19494 b = 446.65097 c = 16.60105

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

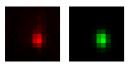
Coordinates: -28.0 um (x), 53.6 um (y), 16.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	393 nm	409 nm	270 nm
max	553 nm	576 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.711		
Theta	-86.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 544.484 (brightness)

B = 123.625 (background)

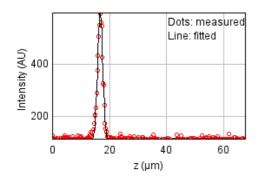
a = 0.868 px

b = -0.029 px

c = 0.441 px

xc = 6.702 pxyc = 6.737 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25289.1960

Standard deviation: 9.07608

R^2: 0.98450 Parameters:

a = 114.81605

b = 601.17339

c = 16.81820

# Bead 837 (Rejected)

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

Coordinates: 5.87 um (x), 52.9 um (y), 13.8 um (z)

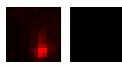
Corresponding bead: Not found

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

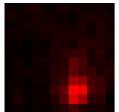
FWHM	Non corrected	Corrected	Theoretical
min	2.65 um	2.76 um	270 nm
max	3.43 um	3.57 um	270 nm
Z	2.73 um	2.75 um	1.3 um
Asymmetry	0.773		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.293$ 



Parameters:

A = -59.534 (brightness)

B = 182.120 (background)

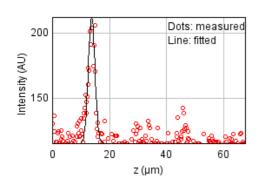
a = -0.000 px

b = 0.015 px

c = 0.008 px

xc = 3.662 pxyc = 1.112 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19675.3565

Standard deviation: 8.00557

R^2: 0.80784 Parameters:

a = 115.36509

b = 212.39637

c = 13.83005

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

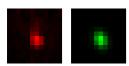
Coordinates: 92.8 um (x), 5.54 um (y), 16.3 um (z)

Corresponding bead: Not found

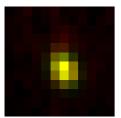
FWHM	Non corrected	Corrected	Theoretical
min	435 nm	453 nm	270 nm
max	583 nm	607 nm	270 nm
Z	2.57 um	2.58 um	1.3 um
Asymmetry	0.746		
Theta	-68.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 277.008 (brightness)

B = 118.943 (background)

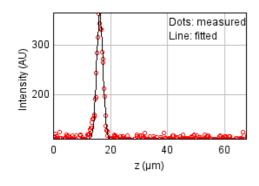
a = 0.667 px

b = -0.106 px

c = 0.436 px

xc = 5.965 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: 15699.3629

Standard deviation: 7.15108

R^2: 0.97110 Parameters:

a = 111.71488

b = 363.93808

c = 16.34247

# Bead 839 (Rejected)

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

Coordinates: 154 um (x), -33.8 um (y), 16.0 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	476 nm	496 nm	270 nm
max	594 nm	619 nm	270 nm
Z	2.88 um	2.89 um	1.3 um
Asymmetry	0.801		
Theta	-35.1°		

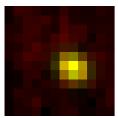
# XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.824$$



Parameters:

A = 127.097 (brightness)

B = 115.935 (background)

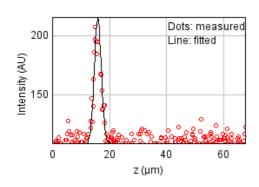
a = 0.450 px

b = -0.100 px

c = 0.523 px

xc = 6.951 pxyc = 6.200 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17017.7812

Standard deviation: 7.44530

R^2: 0.85800 Parameters:

a = 109.52275

b = 215.13663

c = 15.98399

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

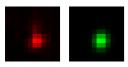
Coordinates: 32.2 um (x), -37.1 um (y), 17.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	482 nm	502 nm	270 nm
max	582 nm	607 nm	270 nm
Z	2.28 um	2.29 um	1.3 um
Asymmetry	0.827		
Theta	83.1°		

## XY profile & fitting parameters :

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



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



A = 499.067 (brightness)

B = 122.802 (background)

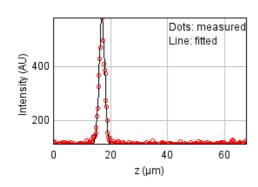
a = 0.576 px

b = 0.022 px

c = 0.398 px

xc = 6.477 pxyc = 6.989 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21790.5914

Standard deviation: 8.42491

R^2: 0.98679 Parameters: a = 113.64934 b = 582.74752 c = 17.08731

Date: Mon Oct 17 13:51:34 PDT 2022

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

Frame size: 12 pixels

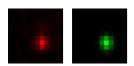
Coordinates: -35.6 um (x), -51.6 um (y), 16.8 um (z)

Corresponding bead: Not found

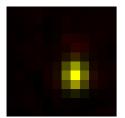
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	420 nm	270 nm
max	507 nm	528 nm	270 nm
Z	1.88 um	1.89 um	1.3 um
Asymmetry	0.796		
Theta	-88.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 526.636 (brightness)

B = 121.239 (background)

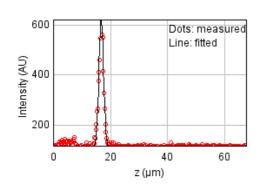
a = 0.824 px

b = -0.009 px

c = 0.522 px

xc = 6.973 pxyc = 6.975 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36372.5101

Standard deviation: 10.88472

R^2: 0.97800 Parameters: a = 114.93798 b = 626.85363

c = 16.82928d = 0.79931

# Bead 842 (Rejected)

Date: Mon Oct 17 13:51:35 PDT 2022

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

Frame size: 12 pixels

Coordinates: -99.7 um (x), -62.4 um (y), 14.4 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.46 um	3.48 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

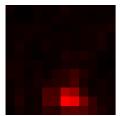
## XY profile & fitting parameters :

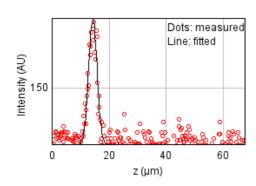
(red: the original data, green: the fit, yellow: the two merged)



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: 14583.2941

Standard deviation: 6.89221

R^2: 0.83813 Parameters:

a = 112.92725

b = 196.01417

c = 14.39622

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

Frame size: 12 pixels

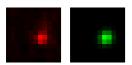
Coordinates: -112 um (x), -72.1 um (y), 16.9 um (z)

Corresponding bead: Not found

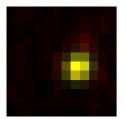
FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	490 nm	510 nm	270 nm
Z	2.01 um	2.01 um	1.3 um
Asymmetry	0.898		
Theta	59.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 300.432 (brightness)

B = 120.012 (background)

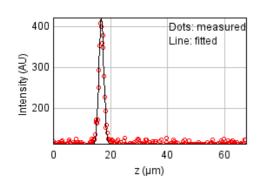
a = 0.659 px

b = 0.059 px

c = 0.595 px

xc = 7.347 pxyc = 6.142 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26012.7708

Standard deviation: 9.20501

R^2: 0.95990 Parameters: a = 113.35712 b = 421.54450 c = 16.87533

# Bead 844 (Rejected)

Date: Mon Oct 17 13:51:35 PDT 2022

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

Frame size: 12 pixels

Coordinates: 158 um (x), 86.6 um (y), 15.5 um (z)

Corresponding bead : Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	490 nm	510 nm	270 nm
max	622 nm	648 nm	270 nm
Z	2.45 um	2.46 um	1.3 um
Asymmetry	0.787		
Theta	82.9°		

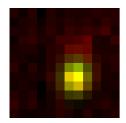
## XY profile & fitting parameters :

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





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



Parameters:

A = 130.895 (brightness)

B = 117.828 (background)

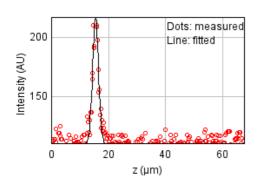
a = 0.557 px

b = 0.026 px

c = 0.350 px

xc = 6.704 pxyc = 7.027 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 11380.3790

Standard deviation: 6.08848

R^2: 0.88805

Parameters:

a = 110.11498

b = 216.87967

c = 15.54599

Date: Mon Oct 17 13:51:35 PDT 2022

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

Frame size: 12 pixels

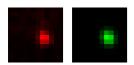
Coordinates: -87.9 um (x), 83.5 um (y), 17.1 um (z)

Corresponding bead : Not found

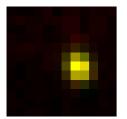
FWHM	Non corrected	Corrected	Theoretical
min	426 nm	443 nm	270 nm
max	526 nm	548 nm	270 nm
Z	2.25 um	2.26 um	1.3 um
Asymmetry	0.809		
Theta	-71.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 356.801 (brightness)

B = 118.093 (background)

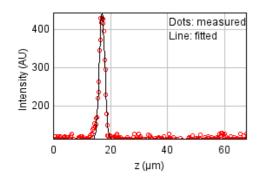
a = 0.716 px

b = -0.076 px

c = 0.510 px

xc = 7.390 pxyc = 6.111 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22082.2106

Standard deviation: 8.48110

R^2: 0.97294 Parameters:

a = 114.21887

b = 443.64679

c = 17.13254

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

Frame size: 12 pixels

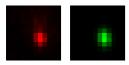
Coordinates: 64.7 um (x), 15.6 um (y), 17.5 um (z)

Corresponding bead: Not found

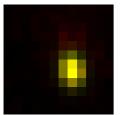
FWHM	Non corrected	Corrected	Theoretical
min	417 nm	435 nm	270 nm
max	586 nm	610 nm	270 nm
Z	2.24 um	2.24 um	1.3 um
Asymmetry	0.712		
Theta	-81.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 579.399 (brightness)

B = 124.281 (background)

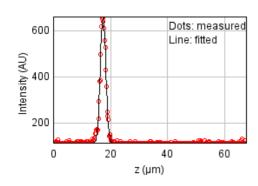
a = 0.763 px

b = -0.055 px

c = 0.399 px

xc = 6.976 pxyc = 6.616 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25151.6927

Standard deviation: 9.05137

R^2: 0.98863 Parameters: a = 114.42168 b = 663.00279

D - 000.0021

c = 17.47693

# Bead 847 (Rejected)

Date: Mon Oct 17 13:51:35 PDT 2022

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

Frame size: 12 pixels

Coordinates: 130 um (x), -11.3 um (y), 14.1 um (z)

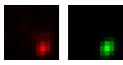
Corresponding bead: Not found

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

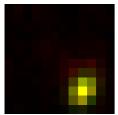
FWHM	Non corrected	Corrected	Theoretical
min	412 nm	429 nm	270 nm
max	555 nm	578 nm	270 nm
Z	3.12 um	3.14 um	1.3 um
Asymmetry	0.741		
Theta	63.5°		

## XY profile & fitting parameters :

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



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



A = 443.002 (brightness)

B = 121.366 (background)

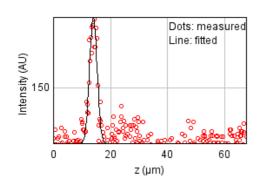
a = 0.721 px

b = 0.143 px

c = 0.507 px

xc = 8.079 pxyc = 8.891 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18415.8487

Standard deviation: 7.74509

R^2: 0.79930 Parameters:

a = 112.17513

b = 198.04160

c = 14.07768

# Bead 848 (Rejected)

Date: Mon Oct 17 13:51:35 PDT 2022

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

Frame size: 12 pixels

Coordinates: -163 um (x), -17.9 um (y), 16.2 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	444 nm	462 nm	270 nm
max	548 nm	571 nm	270 nm
Z	3.29 um	3.3 um	1.3 um
Asymmetry	0.81		
Theta	32.1°		

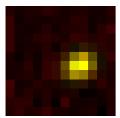
## XY profile & fitting parameters :

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





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



Parameters:

A = 139.848 (brightness)

B = 113.998 (background)

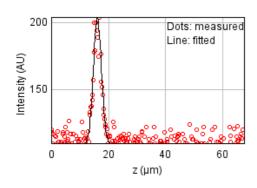
a = 0.513 px

b = 0.106 px

c = 0.615 px

xc = 7.586 pxyc = 5.986 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 13660.5257

Standard deviation: 6.67059

R^2: 0.87139 Parameters:

a = 109.51812

b = 203.75693

c = 16.20483

# Bead 849 (Rejected)

Date: Mon Oct 17 13:51:35 PDT 2022

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

Frame size: 12 pixels

Coordinates: -119 um (x), -40.8 um (y), 15.4 um (z)

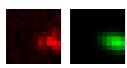
Corresponding bead: Not found

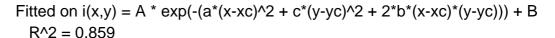
Reason of rejection: The fitted bead is likely to be a different bead from the center bead.

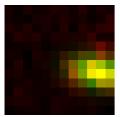
FWHM	Non corrected	Corrected	Theoretical
min	571 nm	595 nm	270 nm
max	1.05 um	1.09 um	270 nm
Z	1.25 um	1.25 um	1.3 um
Asymmetry	0.546		
Theta	-11.3°		

## XY profile & fitting parameters :

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







A = 142.003 (brightness)

B = 120.016 (background)

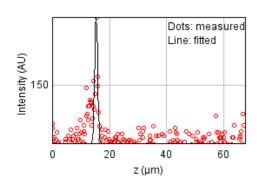
a = 0.134 px

b = -0.055 px

c = 0.400 px

xc = 9.787 pxyc = 6.811 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18760.9739

Standard deviation: 7.81733

R^2: 0.59271 Parameters:

a = 112.69657

b = 193.82901

c = 15.39384

Date: Mon Oct 17 13:51:35 PDT 2022

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

Frame size: 12 pixels

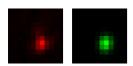
Coordinates: 64.6 um (x), -56.9 um (y), 17.6 um (z)

Corresponding bead: Not found

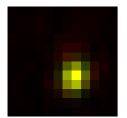
FWHM	Non corrected	Corrected	Theoretical
min	443 nm	461 nm	270 nm
max	550 nm	573 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.806		
Theta	81.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 567.879 (brightness)

B = 126.080 (background)

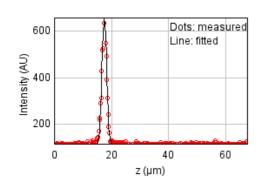
a = 0.679 px

b = 0.037 px

c = 0.450 px

xc = 6.798 pxyc = 7.155 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25283.9964

Standard deviation: 9.07515

R^2: 0.98663 Parameters: a = 113.59638 b = 658.16904

c = 17.56658

# Bead 851 (Rejected)

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

Coordinates: 118 um (x), -78.9 um (y), 15.0 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	472 nm	491 nm	270 nm
max	776 nm	808 nm	270 nm
Z	2.37 um	2.38 um	1.3 um
Asymmetry	0.608		
Theta	47.3°		

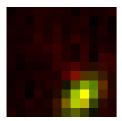
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.797$$



A = 151.053 (brightness)

B = 117.975 (background)

a = 0.428 px

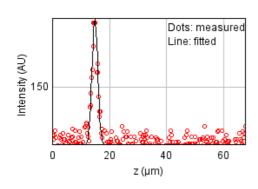
Parameters:

b = 0.189 px

c = 0.397 px

xc = 7.722 pxyc = 9.204 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 10212.0898

Standard deviation: 5.76751

R^2: 0.84559

Parameters:

a = 111.17103

b = 196.42895

c = 14.95480

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

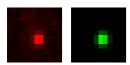
Coordinates: -124 um (x), 72.4 um (y), 16.4 um (z)

Corresponding bead: Not found

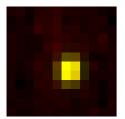
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	468 nm	487 nm	270 nm
Z	2.62 um	2.63 um	1.3 um
Asymmetry	0.864		
Theta	84.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 249.088 (brightness)

B = 116.709 (background)

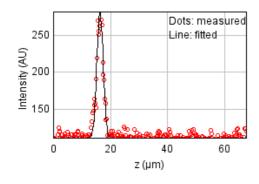
a = 0.820 px

b = 0.020 px

c = 0.616 px

xc = 6.395 pxyc = 6.459 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17024.4847

Standard deviation: 7.44677

R^2: 0.93508 Parameters: a = 111.20712

b = 281.65824

c = 16.41767

# Bead 853 (Rejected)

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

Coordinates: -21.7 um (x), 47.8 um (y), 17.2 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	414 nm	432 nm	270 nm
max	663 nm	690 nm	270 nm
Z	3.2 um	3.21 um	1.3 um
Asymmetry	0.625		
Theta	68.1°		

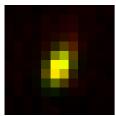
## XY profile & fitting parameters :

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





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



B = 126.364 (background) a = 0.716 px

b = 0.165 px

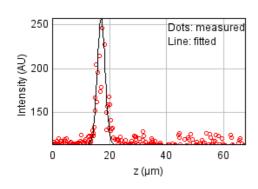
Parameters:

A = 536.273 (brightness)

c = 0.372 px

xc = 5.485 pxyc = 6.191 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 82636.0814

Standard deviation: 16.40649

R^2: 0.71844 Parameters: a = 113.26625

b = 257.22382

c = 17.16628

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

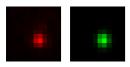
Coordinates: -65.4 um (x), 29.2 um (y), 47.7 um (z)

Corresponding bead: Not found

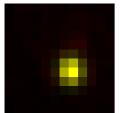
FWHM	Non corrected	Corrected	Theoretical
min	424 nm	441 nm	270 nm
max	494 nm	514 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.858		
Theta	-86.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 904.538 (brightness)

B = 131.999 (background)

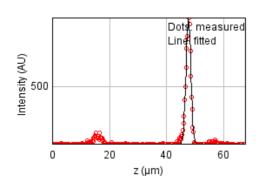
a = 0.747 px

b = -0.011 px

c = 0.551 px

xc = 6.750 pxyc = 6.830 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 108661.273

Standard deviation: 18.81344

R^2: 0.97719 Parameters: a = 119.75030

b = 960.66661

c = 47.70816

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

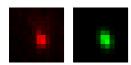
Coordinates: 83.5 um (x), 27.1 um (y), 17.5 um (z)

Corresponding bead: Not found

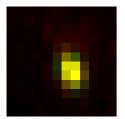
FWHM	Non corrected	Corrected	Theoretical
min	394 nm	410 nm	270 nm
max	593 nm	617 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.664		
Theta	-72.9°		

## XY profile & fitting parameters :

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



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



A = 443.571 (brightness)

B = 122.702 (background)

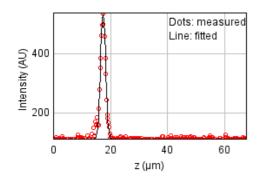
a = 0.824 px

b = -0.136 px

c = 0.424 px

xc = 6.589 pxyc = 6.525 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32466.3458

Standard deviation: 10.28366

R^2: 0.97392 Parameters:

a = 113.65962

b = 539.31326

c = 17.48718

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

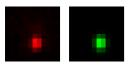
Coordinates: -18.8 um (x), 10.1 um (y), 17.3 um (z)

Corresponding bead: Not found

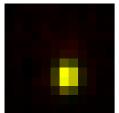
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	486 nm	506 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.796		
Theta	89.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 690.637 (brightness)

B = 127.403 (background)

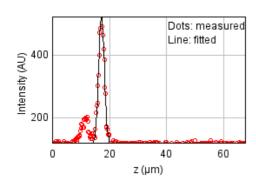
a = 0.896 px

b = 0.000 px

c = 0.568 px

xc = 6.346 pxyc = 7.476 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 92225.5033

Standard deviation: 17.33231

R^2: 0.93115 Parameters: a = 118.16493 b = 525.86064

c = 17.27625

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

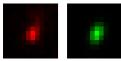
Coordinates: 10.3 um (x), 9.55 um (y), 17.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	670 nm	698 nm	270 nm
Z	2.49 um	2.5 um	1.3 um
Asymmetry	0.635		
Theta	68.3°		

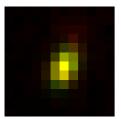
## XY profile & fitting parameters :

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





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



Parameters:

A = 488.381(brightness)

B = 120.429(background)

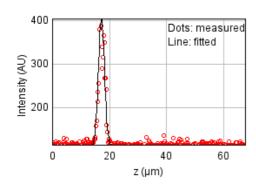
a = 0.681 px

b = 0.152 px

c = 0.359 px

xc = 6.031 pxyc = 6.093 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 61065.4330

Standard deviation: 14.10355

R^2: 0.91910 Parameters:

a = 112.71992

b = 406.39882

c = 17.27010

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

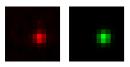
Coordinates: -53.0 um (x), -14.0 um (y), 17.4 um (z)

Corresponding bead: Not found

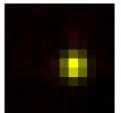
FWHM	Non corrected	Corrected	Theoretical
min	412 nm	429 nm	270 nm
max	457 nm	476 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.901		
Theta	83.9°		

## XY profile & fitting parameters :

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



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



A = 703.994 (brightness)

B = 128.193 (background)

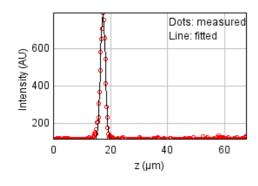
a = 0.790 px

b = 0.016 px

c = 0.645 px

xc = 7.103 pxyc = 6.299 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 29820.0676

Standard deviation: 9.85565

R^2: 0.98999 Parameters:

a = 115.27200

b = 792.01707

c = 17.43551

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

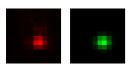
Coordinates: -76.2 um (x), -25.6 um (y), 17.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	449 nm	467 nm	270 nm
max	476 nm	496 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.941		
Theta	8.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 555.238 (brightness)

B = 123.535 (background)

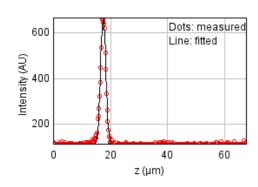
a = 0.593 px

b = 0.011 px

c = 0.665 px

xc = 6.706 pxyc = 6.854 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22513.3275

Standard deviation: 8.56349

R^2: 0.98960 Parameters: a = 113.24914 b = 667.76448

c = 17.52788

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

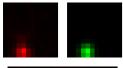
Coordinates: 20.0 um (x), -27.9 um (y), 34.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	466 nm	485 nm	270 nm
max	508 nm	529 nm	270 nm
Z	1.82 um	1.83 um	1.3 um
Asymmetry	0.918		
Theta	-86.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 627.390(brightness)

B = 128.861(background)

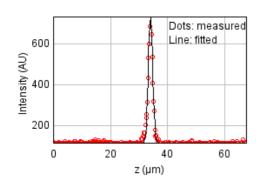
a = 0.618 px

b = -0.006 px

c = 0.521 px

xc = 3.792 pxyc = 10.314 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28547.4108

Standard deviation: 9.64304

R^2: 0.98763 Parameters:

a = 115.74704

b = 733.72863

c = 34.10498

Date: Mon Oct 17 13:51:36 PDT 2022

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

Frame size: 12 pixels

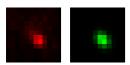
Coordinates: 135 um (x), -34.6 um (y), 17.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	553 nm	576 nm	270 nm
Z	2.5 um	2.51 um	1.3 um
Asymmetry	0.744		
Theta	-54.2°		

## XY profile & fitting parameters :

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



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



A = 341.089 (brightness)

B = 118.873 (background)

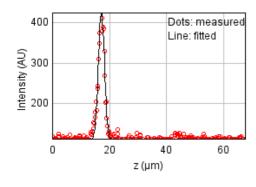
a = 0.672 px

b = -0.168 px

c = 0.560 px

xc = 6.590 pxyc = 6.574 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25882.9909

Standard deviation: 9.18202

R^2: 0.96843 Parameters:

a = 112.07382

b = 425.63055

c = 17.25464

Date: Mon Oct 17 13:51:37 PDT 2022

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

Frame size: 12 pixels

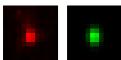
Coordinates: 46.3 um (x), -35.4 um (y), 13.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	428 nm	446 nm	270 nm
max	589 nm	613 nm	270 nm
Z	2.27 um	2.28 um	1.3 um
Asymmetry	0.727		
Theta	-87.3°		

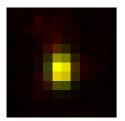
## XY profile & fitting parameters :

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





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



Parameters:

A = 507.325 (brightness)

B = 122.840 (background)

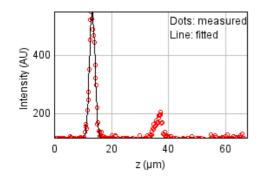
a = 0.732 px

b = -0.016 px

c = 0.388 px

xc = 5.413 pxyc = 6.256 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 87141.3296

Standard deviation: 16.84779

R^2: 0.94043 Parameters:

a = 118.05836

b = 550.00375

c = 13.32272

Date: Mon Oct 17 13:51:37 PDT 2022

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

Frame size: 12 pixels

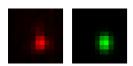
Coordinates: 62.2 um (x), -90.5 um (y), 17.3 um (z)

Corresponding bead: Not found

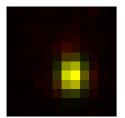
FWHM	Non corrected	Corrected	Theoretical
min	460 nm	479 nm	270 nm
max	590 nm	615 nm	270 nm
Z	2.1 um	2.1 um	1.3 um
Asymmetry	0.779		
Theta	89.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 476.790 (brightness)

B = 120.879 (background)

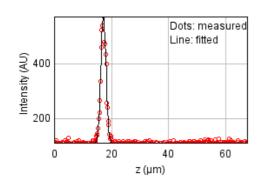
a = 0.634 px

b = 0.001 px

c = 0.385 px

xc = 6.645 pxyc = 7.006 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23302.6346

Standard deviation: 8.71231

R^2: 0.98414 Parameters: a = 113.23810 b = 573.14228

c = 17.26092

# Bead 864 (Rejected)

Date: Mon Oct 17 13:51:37 PDT 2022

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

Frame size: 12 pixels

Coordinates: 109 um (x), 43.0 um (y), 17.7 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	432 nm	450 nm	270 nm
max	519 nm	540 nm	270 nm
Z	1.7 um	1.7 um	1.3 um
Asymmetry	0.834		
Theta	-89.4°		

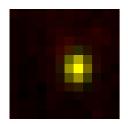
## XY profile & fitting parameters :

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





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



Parameters:

A = 278.819 (brightness)

B = 116.315 (background)

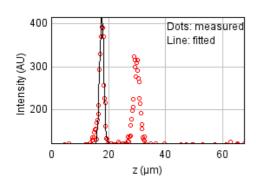
a = 0.718 px

b = -0.002 px

c = 0.499 px

xc = 6.883 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: 384481.036

Standard deviation: 35.38900

R^2: 0.55830 Parameters:

a = 122.09605

b = 417.16310

c = 17.71637

Date: Mon Oct 17 13:51:37 PDT 2022

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

Frame size: 12 pixels

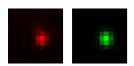
Coordinates: 107 um (x), 5.14 um (y), 18.1 um (z)

Corresponding bead: Not found

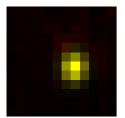
FWHM	Non corrected	Corrected	Theoretical
min	432 nm	450 nm	270 nm
max	522 nm	543 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.829		
Theta	89.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 563.146 (brightness)

B = 121.314 (background)

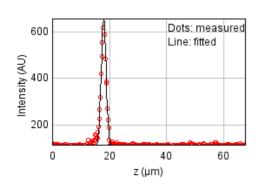
a = 0.718 px

b = 0.002 px

c = 0.493 px

xc = 6.865 pxyc = 6.127 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28832.1593

Standard deviation: 9.69102

R^2: 0.98511 Parameters:

a = 112.72473

b = 655.20711

c = 18.05503

Date: Mon Oct 17 13:51:37 PDT 2022

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

Frame size: 12 pixels

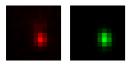
Coordinates: -4.38 um (x), -1.61 um (y), 17.9 um (z)

Corresponding bead: Not found

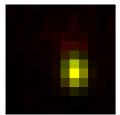
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	411 nm	270 nm
max	552 nm	575 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.716		
Theta	-85.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 523.927 (brightness)

B = 123.465 (background)

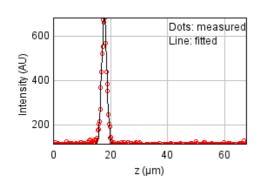
a = 0.857 px

b = -0.031 px

c = 0.443 px

xc = 7.094 pxyc = 6.838 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26712.4845

Standard deviation: 9.32799

R^2: 0.98828 Parameters: a = 114.28393 b = 685.34951 c = 17.88738

Date: Mon Oct 17 13:51:37 PDT 2022

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

Frame size: 12 pixels

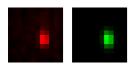
Coordinates: -27.4 um (x), -3.5 um (y), 17.0 um (z)

Corresponding bead: Not found

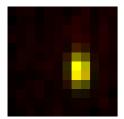
FWHM	Non corrected	Corrected	Theoretical
min	344 nm	358 nm	270 nm
max	580 nm	604 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.592		
Theta	-87.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 307.126 (brightness)

B = 117.527 (background)

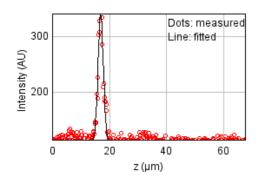
a = 1.135 px

b = -0.031 px

c = 0.400 px

xc = 7.351 pxyc = 6.414 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25220.8199

Standard deviation: 9.06380

R^2: 0.93420 Parameters: a = 114.51343 b = 340.80139

c = 16.99386

Date: Mon Oct 17 13:51:37 PDT 2022

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

Frame size: 12 pixels

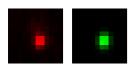
Coordinates: 57.7 um (x), -10.4 um (y), 17.5 um (z)

Corresponding bead: Not found

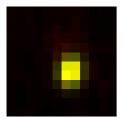
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	520 nm	542 nm	270 nm
Z	2.34 um	2.35 um	1.3 um
Asymmetry	0.777		
Theta	84.0°		

## XY profile & fitting parameters :

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



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



A = 668.416 (brightness)

B = 125.531 (background)

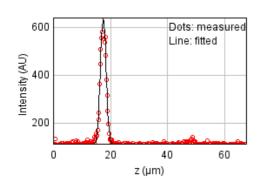
a = 0.818 px

b = 0.034 px

c = 0.499 px

xc = 6.471 pxyc = 6.562 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32008.4256

Standard deviation: 10.21088

R^2: 0.98512 Parameters:

a = 113.77693

b = 642.44614

c = 17.53756

Date: Mon Oct 17 13:51:38 PDT 2022

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

Frame size: 12 pixels

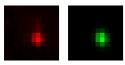
Coordinates: -29.7 um (x), -13.2 um (y), 17.7 um (z)

Corresponding bead: Not found

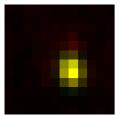
FWHM	Non corrected	Corrected	Theoretical
min	394 nm	410 nm	270 nm
max	519 nm	540 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.759		
Theta	-80.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 558.511 (brightness)

B = 123.779 (background)

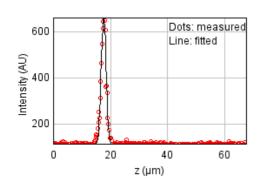
a = 0.856 px

b = -0.062 px

c = 0.509 px

xc = 6.782 pxyc = 6.700 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 42711.7452

Standard deviation: 11.79518

R^2: 0.97906 Parameters: a = 113.96792 b = 665.06678 c = 17.69265

# Bead 870 (Rejected)

Date: Mon Oct 17 13:51:38 PDT 2022

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

Frame size: 12 pixels

Coordinates: -163 um (x), -17.9 um (y), 16.2 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	445 nm	464 nm	270 nm
max	550 nm	573 nm	270 nm
Z	3.29 um	3.3 um	1.3 um
Asymmetry	0.81		
Theta	32.0°		

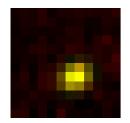
## XY profile & fitting parameters :

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





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



Parameters:

A = 139.856 (brightness)

B = 113.792 (background)

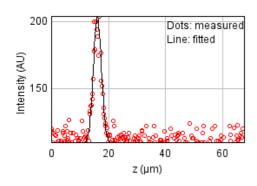
a = 0.509 px

b = 0.105 px

c = 0.612 px

xc = 6.585 pxyc = 6.987 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 13660.5257

Standard deviation: 6.67059

R^2: 0.87139

Parameters:

a = 109.51812

b = 203.75693

c = 16.20483

Date: Mon Oct 17 13:51:38 PDT 2022

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

Frame size: 12 pixels

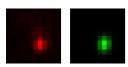
Coordinates: 110 um (x), -17.8 um (y), 17.7 um (z)

Corresponding bead: Not found

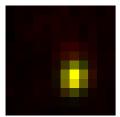
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	424 nm	270 nm
max	525 nm	547 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.775		
Theta	83.9°		

## XY profile & fitting parameters :

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



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



A = 451.110 (brightness)

B = 121.126 (background)

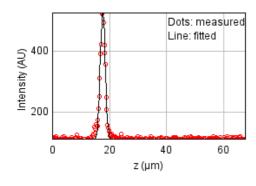
a = 0.807 px

b = 0.034 px

c = 0.491 px

xc = 6.980 pxyc = 7.315 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24373.8065

Standard deviation: 8.91030

R^2: 0.97918 Parameters: a = 112.03756 b = 528.67190

c = 17.71582

# Bead 872 (Rejected)

Date: Mon Oct 17 13:51:38 PDT 2022

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

Frame size: 12 pixels

Coordinates: 154 um (x), -33.8 um (y), 16.0 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	474 nm	493 nm	270 nm
max	592 nm	616 nm	270 nm
Z	2.88 um	2.89 um	1.3 um
Asymmetry	0.8		
Theta	-35.0°		

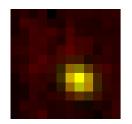
# XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.826$$



Parameters:  $\Delta = 127.070$ 

A = 127.079 (brightness)

B = 116.206 (background)

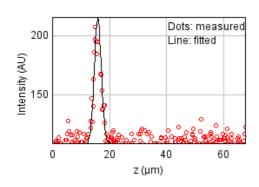
a = 0.454 px

b = -0.101 px

c = 0.527 px

xc = 6.951 pxyc = 7.200 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 17017.7812

Standard deviation: 7.44530

R^2: 0.85800 Parameters:

a = 109.52275

b = 215.13663

c = 15.98399

Date: Mon Oct 17 13:51:38 PDT 2022

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

Frame size: 12 pixels

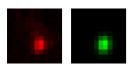
Coordinates: 103 um (x), -71.0 um (y), 17.6 um (z)

Corresponding bead: Not found

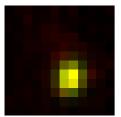
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	465 nm	270 nm
max	565 nm	588 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.791		
Theta	81.0°		

## 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 = 327.643 (brightness)

B = 120.426 (background)

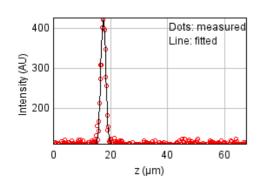
a = 0.667 px

b = 0.039 px

c = 0.427 px

xc = 6.660 pxyc = 7.384 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16400.1801

Standard deviation: 7.30895

R^2: 0.97526 Parameters: a = 111.61293

a = 111.01230

b = 425.89203

c = 17.56758

Date: Mon Oct 17 13:51:38 PDT 2022

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

Frame size: 12 pixels

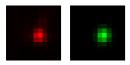
Coordinates: -116 um (x), -80.2 um (y), 18.0 um (z)

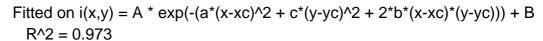
Corresponding bead: Not found

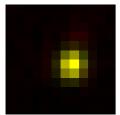
FWHM	Non corrected	Corrected	Theoretical
min	448 nm	467 nm	270 nm
max	519 nm	540 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.864		
Theta	78.7°		

## XY profile & fitting parameters :

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







Parameters:

A = 641.456 (brightness)

B = 121.323 (background)

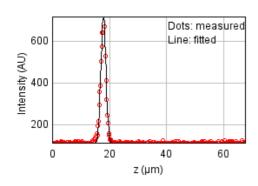
a = 0.662 px

b = 0.033 px

c = 0.505 px

xc = 6.755 pxyc = 6.057 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 34224.7629

Standard deviation: 10.55847

R^2: 0.98627 Parameters: a = 113.56884 b = 720.03833 c = 17.96017

# Bead 875 (Rejected)

Date: Mon Oct 17 13:51:39 PDT 2022

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

Frame size: 12 pixels

Coordinates: -60.7 um (x), -83.1 um (y), 13.7 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.66 um	3.68 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

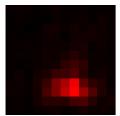
## XY profile & fitting parameters :

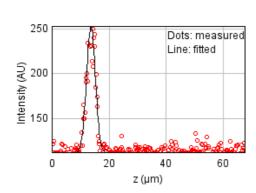
(red: the original data, green: the fit, yellow: the two merged)



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: 20224.3203

Standard deviation: 8.11648

R^2: 0.91770 Parameters: a = 112.73678 b = 252.71191 c = 13.74148

Date: Mon Oct 17 13:51:39 PDT 2022

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

Frame size: 12 pixels

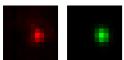
Coordinates: 124 um (x), -88.8 um (y), 18.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	427 nm	445 nm	270 nm
max	527 nm	549 nm	270 nm
Z	2.19 um	2.2 um	1.3 um
Asymmetry	0.811		
Theta	-83.4°		

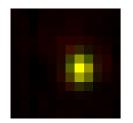
## XY profile & fitting parameters :

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





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



Parameters:

A = 419.835 (brightness)

B = 122.356 (background)

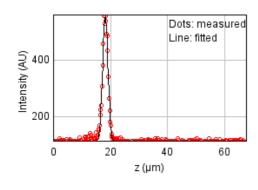
a = 0.731 px

b = -0.028 px

c = 0.487 px

xc = 7.138 pxyc = 6.063 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24353.9138

Standard deviation: 8.90667

R^2: 0.98328 Parameters: a = 112.08820b = 559.96503c = 18.28285

Date: Mon Oct 17 13:51:39 PDT 2022

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

Frame size: 12 pixels

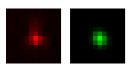
Coordinates: -6.16 um (x), -91.2 um (y), 17.6 um (z)

Corresponding bead: Not found

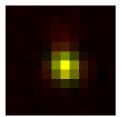
FWHM	Non corrected	Corrected	Theoretical
min	463 nm	482 nm	270 nm
max	536 nm	558 nm	270 nm
Z	1.93 um	1.93 um	1.3 um
Asymmetry	0.864		
Theta	-65.4°		

## 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 = 410.697 (brightness)

B = 119.873 (background)

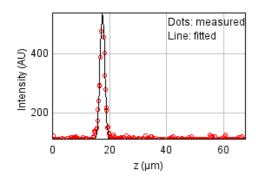
a = 0.599 px

b = -0.060 px

c = 0.495 px

xc = 5.997 pxyc = 6.126 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22713.1173

Standard deviation: 8.60140

R^2: 0.98045 Parameters:

a = 113.10225

b = 537.93811

c = 17.59573

Date: Mon Oct 17 13:51:39 PDT 2022

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

Frame size: 12 pixels

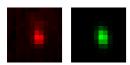
Coordinates: 57.3 um (x), 83.1 um (y), 17.6 um (z)

Corresponding bead: Not found

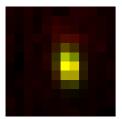
FWHM	Non corrected	Corrected	Theoretical
min	385 nm	401 nm	270 nm
max	615 nm	641 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.625		
Theta	-81.1°		

## XY profile & fitting parameters :

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



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



A = 311.746 (brightness)

B = 120.231 (background)

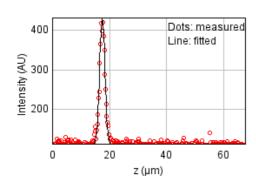
a = 0.894 px

b = -0.085 px

c = 0.368 px

xc = 6.391 pxyc = 5.962 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19417.4901

Standard deviation: 7.95293

R^2: 0.97316 Parameters:

a = 113.24325

b = 430.83043

c = 17.55725

# Bead 879 (Rejected)

Date: Mon Oct 17 13:51:39 PDT 2022

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

Frame size: 12 pixels

Coordinates: 58.6 um (x), 67.9 um (y), 14.2 um (z)

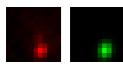
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	445 nm	463 nm	270 nm
max	566 nm	590 nm	270 nm
Z	4.21 um	4.23 um	1.3 um
Asymmetry	0.786		
Theta	76.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 407.114 (brightness)

B = 130.164 (background)

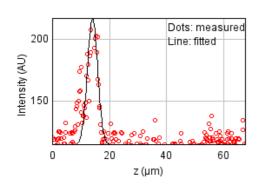
a = 0.664 px

b = 0.060 px

c = 0.433 px

xc = 7.189 pxyc = 8.966 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 36453.9214

Standard deviation: 10.89690

R^2: 0.78877 Parameters:

a = 114.77645

b = 216.84827

c = 14.15849

Date: Mon Oct 17 13:51:39 PDT 2022

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

Frame size: 12 pixels

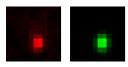
Coordinates: 54.7 um (x), 49.1 um (y), 17.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	419 nm	437 nm	270 nm
max	543 nm	565 nm	270 nm
Z	2.38 um	2.39 um	1.3 um
Asymmetry	0.773		
Theta	85.7°		

## XY profile & fitting parameters :

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



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



A = 317.663 (brightness)

B = 120.417(background)

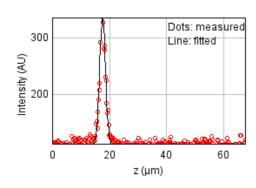
a = 0.762 px

b = 0.023 px

c = 0.457 px

xc = 6.531 pxyc = 7.439 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19575.0305

Standard deviation: 7.98513

R^2: 0.95092 Parameters: a = 112.98896

b = 334.86174

c = 17.66123

# Bead 881 (Rejected)

Date: Mon Oct 17 13:51:39 PDT 2022

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

Frame size: 12 pixels

Coordinates: -21.7 um (x), 47.8 um (y), 17.2 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	413 nm	430 nm	270 nm
max	659 nm	687 nm	270 nm
Z	3.2 um	3.21 um	1.3 um
Asymmetry	0.626		
Theta	68.1°		

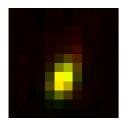
## XY profile & fitting parameters :

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





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



xc = 5.484 pxyc = 7.193 px

#### Parameters:

A = 536.591 (brightness)

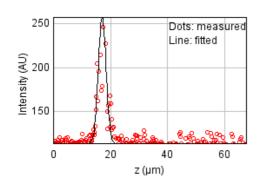
B = 127.430 (background)

a = 0.722 px

b = 0.166 px

c = 0.375 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 82636.0814

Standard deviation: 16.40649

R^2: 0.71844

Parameters: a = 113.26625

b = 257.22382

c = 17.16628

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

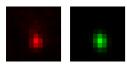
Coordinates: 24.4 um (x), 26.5 um (y), 18.1 um (z)

Corresponding bead: Not found

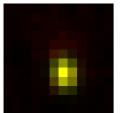
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	555 nm	578 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.74		
Theta	-81.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 541.143 (brightness)

B = 125.140 (background)

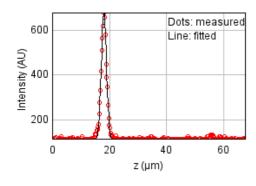
a = 0.789 px

b = -0.055 px

c = 0.445 px

xc = 6.126 pxyc = 7.117 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24125.8004

Standard deviation: 8.86486

R^2: 0.98908 Parameters: a = 114.32067 b = 678.83530 c = 18.13449 d = 0.89261

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

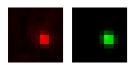
Coordinates: -30.7 um (x), 22.0 um (y), 17.8 um (z)

Corresponding bead: Not found

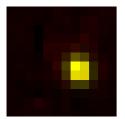
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	419 nm	270 nm
max	471 nm	490 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.856		
Theta	-70.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 440.161(brightness)

B = 119.703 (background)

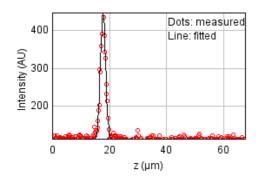
a = 0.804 px

b = -0.069 px

c = 0.630 px

xc = 7.418 pxyc = 6.419 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18988.8412

Standard deviation: 7.86466

R^2: 0.97562 Parameters: a = 113.80291

b = 446.24446

c = 17.81960

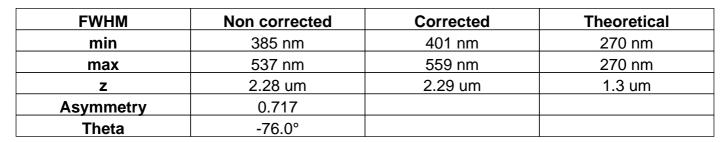
Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

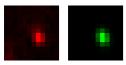
Coordinates: 108 um (x), 6.6 um (y), 17.6 um (z)

Corresponding bead: Not found

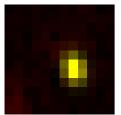


## XY profile & fitting parameters :

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



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



Parameters:

A = 395.889 (brightness)

B = 125.701 (background)

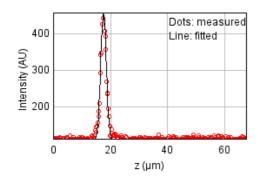
a = 0.881 px

b = -0.103 px

c = 0.492 px

xc = 7.094 pxyc = 6.490 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16736.4995

Standard deviation: 7.38351

R^2: 0.98163 Parameters: a = 111.20463 b = 458.69065

c = 17.64533

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

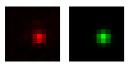
Coordinates: -123 um (x), -609 nm (y), 18.1 um (z)

Corresponding bead: Not found

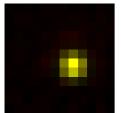
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	447 nm	270 nm
max	446 nm	464 nm	270 nm
Z	2.35 um	2.36 um	1.3 um
Asymmetry	0.962		
Theta	-77.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 547.032 (brightness)

B = 119.918 (background)

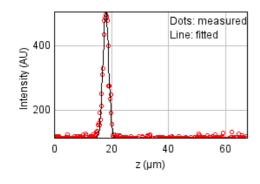
a = 0.727 px

b = -0.012 px

c = 0.677 px

xc = 6.993 pxyc = 6.268 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27574.0180

Standard deviation: 9.47722

R^2: 0.97735 Parameters: a = 112.20658

b = 507.29793

c = 18.10119

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

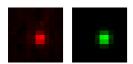
Coordinates: -131 um (x), -4.79 um (y), 17.7 um (z)

Corresponding bead: Not found

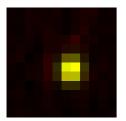
FWHM	Non corrected	Corrected	Theoretical
min	402 nm	418 nm	270 nm
max	457 nm	476 nm	270 nm
Z	2.19 um	2.19 um	1.3 um
Asymmetry	0.879		
Theta	84.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 385.603 (brightness)

B = 118.662 (background)

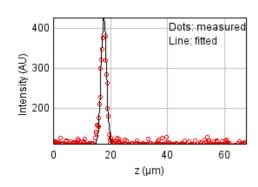
a = 0.831 px

b = 0.017 px

c = 0.645 px

xc = 6.535 pxyc = 6.276 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20277.4881

Standard deviation: 8.12714

R^2: 0.97226 Parameters: a = 111.74664 b = 427.81283

c = 17.73031

# Bead 887 (Rejected)

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

Coordinates: -51.5 um (x), -10.6 um (y), 15.2 um (z)

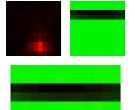
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	136 nm	142 nm	270 nm
max	4.92 um	5.12 um	270 nm
Z	3.81 um	3.83 um	1.3 um
Asymmetry	0.028		
Theta	-0.1°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.032$$

Parameters:

A = -110.098 (brightness)

B = 142.210 (background)

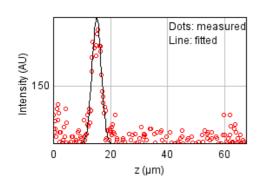
a = -0.006 px

b = -0.009 px

c = 7.267 px

xc = 5.765 pxyc = 2.489 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16148.0632

Standard deviation: 7.25256

R^2: 0.82923 Parameters: a = 113.38422

b = 194.43651

c = 15.23573

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

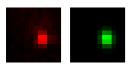
Coordinates: 97.6 um (x), -27.5 um (y), 14.1 um (z)

Corresponding bead: Not found

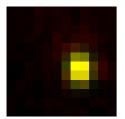
FWHM	Non corrected	Corrected	Theoretical
min	427 nm	445 nm	270 nm
max	547 nm	569 nm	270 nm
Z	2.35 um	2.36 um	1.3 um
Asymmetry	0.781		
Theta	-85.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 366.283 (brightness)

B = 120.504 (background)

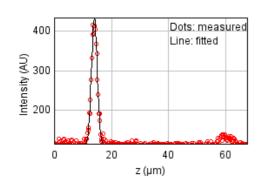
a = 0.734 px

b = -0.023 px

c = 0.451 px

xc = 7.484 pxyc = 6.293 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24663.3470

Standard deviation: 8.96307

R^2: 0.96894 Parameters:

a = 114.74875

b = 432.74769

c = 14.08641

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

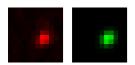
Coordinates: -90.6 um (x), -89.1 um (y), 17.5 um (z)

Corresponding bead: Not found

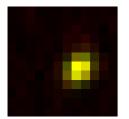
FWHM	Non corrected	Corrected	Theoretical
min	434 nm	452 nm	270 nm
max	544 nm	566 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.798		
Theta	55.2°		

## XY profile & fitting parameters :

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



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



A = 312.198 (brightness)

B = 119.105 (background)

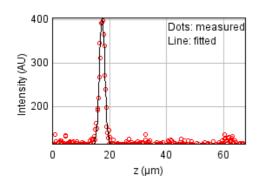
a = 0.629 px

b = 0.122 px

c = 0.538 px

xc = 7.337 pxyc = 6.285 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21073.8129

Standard deviation: 8.28519

R^2: 0.96648 Parameters: a = 113.72072 b = 406.26820

c = 17.50196

Date: Mon Oct 17 13:51:40 PDT 2022

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

Frame size: 12 pixels

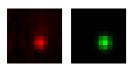
Coordinates: -115 um (x), 57.5 um (y), 17.8 um (z)

Corresponding bead : Not found

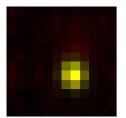
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	490 nm	510 nm	270 nm
Z	2.26 um	2.27 um	1.3 um
Asymmetry	0.88		
Theta	-86.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 274.787 (brightness)

B = 119.433 (background)

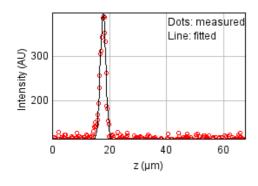
a = 0.721 px

b = -0.009 px

c = 0.559 px

xc = 6.782 pxyc = 6.942 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 21062.0981

Standard deviation: 8.28288

R^2: 0.96626 Parameters: a = 113.27828

u = 110.27020

b = 399.77835

c = 17.83159

Date: Mon Oct 17 13:51:41 PDT 2022

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

Frame size: 12 pixels

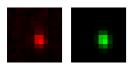
Coordinates: -80.2 um (x), 57.2 um (y), 17.7 um (z)

Corresponding bead: Not found

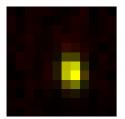
FWHM	Non corrected	Corrected	Theoretical
min	383 nm	399 nm	270 nm
max	530 nm	552 nm	270 nm
Z	2.35 um	2.36 um	1.3 um
Asymmetry	0.722		
Theta	-80.4°		

## XY profile & fitting parameters :

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



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



A = 354.857 (brightness)

B = 119.555 (background)

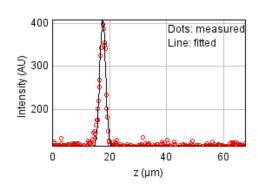
a = 0.904 px

b = -0.072 px

c = 0.490 px

xc = 6.626 pxyc = 6.644 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22536.3958

Standard deviation: 8.56787

R^2: 0.96726 Parameters:

a = 114.30611

b = 409.61679

c = 17.70424

# Bead 892 (Rejected)

Date: Mon Oct 17 13:51:41 PDT 2022

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

Frame size: 12 pixels

Coordinates: 66.9 um (x), 43.2 um (y), 13.4 um (z)

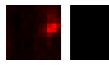
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	4.22 um	4.24 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

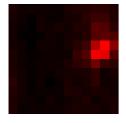
## XY profile & fitting parameters :

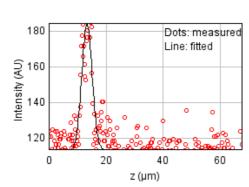
(red: the original data, green: the fit, yellow: the two merged)



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: 22468.5220

Standard deviation: 8.55496

R^2: 0.74486 Parameters: a = 113.66076

b = 184.47268

c = 13.40886

# Bead 893 (Rejected)

Date: Mon Oct 17 13:51:41 PDT 2022

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

Frame size: 12 pixels

Coordinates: -4.41 um (x), 17.6 um (y), 15.1 um (z)

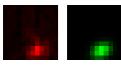
Corresponding bead: Not found

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

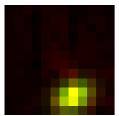
FWHM	Non corrected	Corrected	Theoretical
min	491 nm	512 nm	270 nm
max	679 nm	707 nm	270 nm
Z	3.68 um	3.7 um	1.3 um
Asymmetry	0.724		
Theta	27.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 310.784 (brightness) B = 119.201 (background)

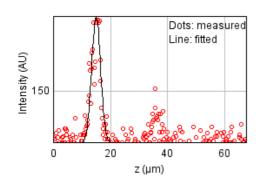
a = 0.347 px

b = 0.108 px

c = 0.500 px

xc = 6.968 pxyc = 9.472 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23078.9083

Standard deviation: 8.67039

R^2: 0.78174 Parameters:

a = 115.48727

b = 200.02930

c = 15.05731

# Bead 894 (Rejected)

Date: Mon Oct 17 13:51:41 PDT 2022

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

Frame size: 12 pixels

Coordinates: 71.7 um (x), 12.8 um (y), 14.8 um (z)

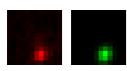
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	454 nm	473 nm	270 nm
max	546 nm	569 nm	270 nm
Z	3.39 um	3.4 um	1.3 um
Asymmetry	0.832		
Theta	63.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 284.172 (brightness)

B = 122.191 (background)

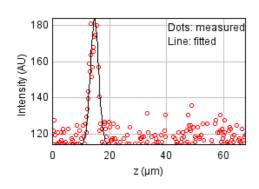
a = 0.611 px

b = 0.080 px

c = 0.489 px

xc = 6.857 pxyc = 9.269 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17939.6224

Standard deviation: 7.64430

R^2: 0.74334 Parameters:

a = 114.28922

b = 183.92980

c = 14.83267

Date: Mon Oct 17 13:51:41 PDT 2022

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

Frame size: 12 pixels

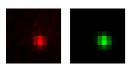
Coordinates: -151 um (x), 8.55 um (y), 17.6 um (z)

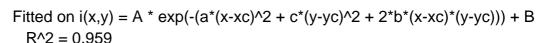
Corresponding bead: Not found

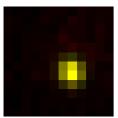
FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	461 nm	480 nm	270 nm
Z	2.3 um	2.31 um	1.3 um
Asymmetry	0.891		
Theta	-72.0°		

## XY profile & fitting parameters :

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







Parameters:

A = 343.838 (brightness)

B = 115.605 (background)

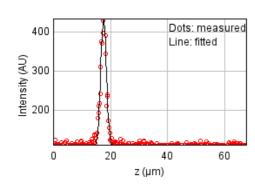
a = 0.779 px

b = -0.048 px

c = 0.647 px

xc = 6.895 pxyc = 6.629 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25412.4623

Standard deviation: 9.09817

R^2: 0.96817 Parameters: a = 111.07243 b = 432.88810

c = 17.64825

Date: Mon Oct 17 13:51:41 PDT 2022

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

Frame size: 12 pixels

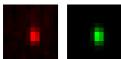
Coordinates: -27.4 um (x), -3.5 um (y), 17.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	344 nm	358 nm	270 nm
max	580 nm	604 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.592		
Theta	-87.6°		

## XY profile & fitting parameters :

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





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



Parameters:

A = 307.106 (brightness)

B = 117.502 (background)

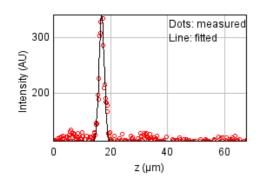
a = 1.135 px

b = -0.031 px

c = 0.400 px

xc = 6.350 pxyc = 6.414 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25220.8199

Standard deviation: 9.06380

R^2: 0.93420 Parameters: a = 114.51343

b = 340.80139

c = 16.99386

# Bead 897 (Rejected)

Date: Mon Oct 17 13:51:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: 159 um (x), -25.2 um (y), 18.7 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	528 nm	550 nm	270 nm
Z	2.45 um	2.46 um	1.3 um
Asymmetry	0.772		
Theta	-81.4°		

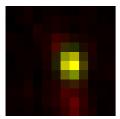
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.812$$



xc = 6.650 px

yc = 5.855 px

## Parameters:

A = 411.194 (brightness)

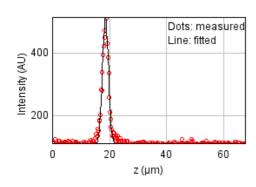
B = 138.574 (background)

a = 0.799 px

b = -0.048 px

c = 0.488 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 28897.6501

Standard deviation: 9.70202

R^2: 0.97825

Parameters:

a = 110.88190

b = 515.57994

c = 18.68046

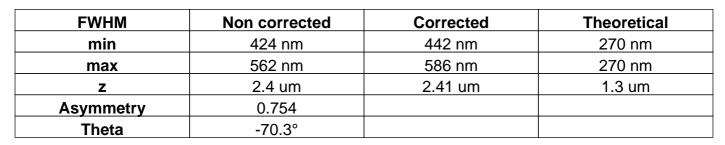
Date: Mon Oct 17 13:51:42 PDT 2022

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

Frame size: 12 pixels

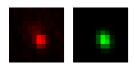
Coordinates: 126 um (x), -28.4 um (y), 18.1 um (z)

Corresponding bead: Not found

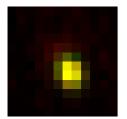


## XY profile & fitting parameters :

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



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



Parameters:

A = 382.338 (brightness)

B = 119.703 (background)

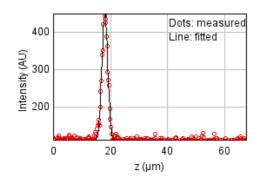
a = 0.710 px

b = -0.102 px

c = 0.461 px

xc = 6.322 pxyc = 6.651 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16384.6475

Standard deviation: 7.30549

R^2: 0.98175 Parameters: a = 112.22073 b = 448.88352

c = 18.11149

# Bead 899 (Rejected)

Date: Mon Oct 17 13:51:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: 128 um (x), -33.0 um (y), 15.2 um (z)

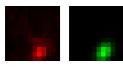
Corresponding bead: Not found

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

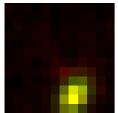
FWHM	Non corrected	Corrected	Theoretical
min	466 nm	485 nm	270 nm
max	660 nm	687 nm	270 nm
Z	3.93 um	3.95 um	1.3 um
Asymmetry	0.706		
Theta	58.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 291.231 (brightness)

B = 121.498 (background)

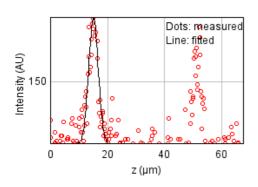
a = 0.534 px

b = 0.138 px

c = 0.393 px

xc = 7.103 pxyc = 9.608 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 55178.2604

Standard deviation: 13.40648

R^2: 0.54268 Parameters:

a = 114.35840

b = 187.37672

c = 15.16728

# Bead 900 (Rejected)

Date: Mon Oct 17 13:51:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: -70.1 um (x), -33.9 um (y), 14.3 um (z)

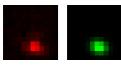
Corresponding bead: Not found

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

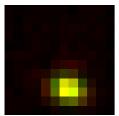
FWHM	Non corrected	Corrected	Theoretical
min	450 nm	469 nm	270 nm
max	571 nm	595 nm	270 nm
Z	3.84 um	3.86 um	1.3 um
Asymmetry	0.788		
Theta	-19.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 399.697 (brightness) B = 123.796 (background)

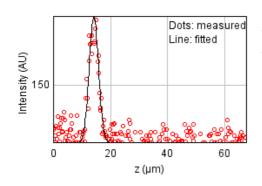
a = 0.438 px

b = -0.078 px

c = 0.636 px

xc = 6.437 pxyc = 8.670 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16439.7750

Standard deviation: 7.31777

R^2: 0.82539 Parameters:

a = 113.34597

b = 193.74903

c = 14.27153