Date: Mon Oct 17 13:53:03 PDT 2022

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

Frame size: 12 pixels

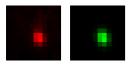
Coordinates: 64.4 um (x), 24.2 um (y), 42.6 um (z)

Corresponding bead: Not found

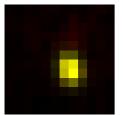
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	534 nm	556 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.749		
Theta	-77.2°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 668.761 (brightness)

B = 125.929 (background)

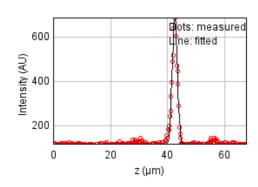
a = 0.823 px

b = -0.080 px

c = 0.490 px

xc = 6.666 pxyc = 6.542 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 37652.4091

Standard deviation: 11.07458

R^2: 0.98348 Parameters: a = 115.99622 b = 687.76411

c = 42.60497

Date: Mon Oct 17 13:53:03 PDT 2022

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

Frame size: 12 pixels

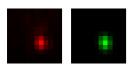
Coordinates: 57.8 um (x), 23.9 um (y), 43.3 um (z)

Corresponding bead: Not found

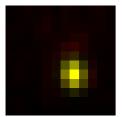
FWHM	Non corrected	Corrected	Theoretical
min	385 nm	401 nm	270 nm
max	513 nm	535 nm	270 nm
Z	1.86 um	1.87 um	1.3 um
Asymmetry	0.751		
Theta	-82.7°		

## XY profile & fitting parameters :

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



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



A = 754.017 (brightness)

B = 131.526 (background)

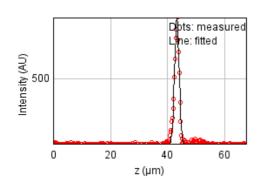
a = 0.897 px

b = -0.050 px

c = 0.516 px

xc = 6.910 pxyc = 6.978 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 51178.0331

Standard deviation: 12.91138

R^2: 0.98512 Parameters: a = 115.41866 b = 860.07820

c = 43.32211

Date: Mon Oct 17 13:53:03 PDT 2022

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

Frame size: 12 pixels

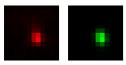
Coordinates: 45.9 um (x), 23.5 um (y), 42.9 um (z)

Corresponding bead: Not found

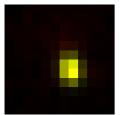
FWHM	Non corrected	Corrected	Theoretical
min	369 nm	384 nm	270 nm
max	505 nm	526 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.73		
Theta	-81.0°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 675.415 (brightness)

B = 122.499 (background)

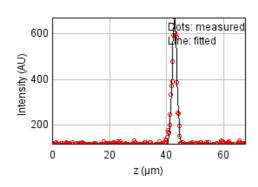
a = 0.975 px

b = -0.071 px

c = 0.537 px

xc = 6.699 pxyc = 6.564 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 45822.4832

Standard deviation: 12.21716

R^2: 0.97725 Parameters: a = 114.11737 b = 671.49510 c = 42.85478

Date: Mon Oct 17 13:53:03 PDT 2022

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

Frame size: 12 pixels

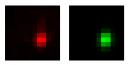
Coordinates: -84.2 um (x), -12.6 um (y), 42.7 um (z)

Corresponding bead: Not found

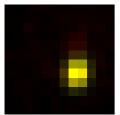
FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	530 nm	552 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.765		
Theta	82.7°		

## XY profile & fitting parameters :

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



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



A = 589.178 (brightness)

B = 120.777 (background)

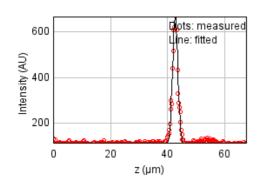
a = 0.811 px

b = 0.043 px

c = 0.484 px

xc = 7.436 pxyc = 6.967 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 47999.3823

Standard deviation: 12.50399

R^2: 0.97807 Parameters: a = 114.38581 b = 667.37105

c = 42.74582

Date: Mon Oct 17 13:53:03 PDT 2022

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

Frame size: 12 pixels

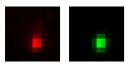
Coordinates: 63.2 um (x), -43.1 um (y), 43.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	398 nm	415 nm	270 nm
max	509 nm	531 nm	270 nm
Z	1.8 um	1.8 um	1.3 um
Asymmetry	0.781		
Theta	85.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 685.904 (brightness)

B = 125.251 (background)

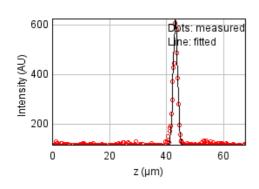
a = 0.845 px

b = 0.028 px

c = 0.519 px

xc = 6.380 pxyc = 7.510 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 31715.1002

Standard deviation: 10.16398

R^2: 0.97971 Parameters: a = 114.92602 b = 624.44934 c = 43.16049

Date: Mon Oct 17 13:53:04 PDT 2022

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

Frame size: 12 pixels

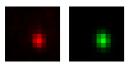
Coordinates: -68.2 um (x), -83.2 um (y), 41.9 um (z)

Corresponding bead: Not found

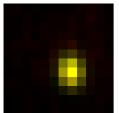
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	447 nm	270 nm
max	565 nm	588 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.76		
Theta	-83.8°		

#### XY profile & fitting parameters :

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



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



A = 490.555(brightness)

B = 121.225(background)

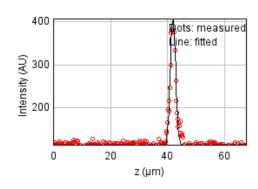
a = 0.725 px

b = -0.033 px

c = 0.424 px

xc = 6.847 pxyc = 6.890 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21837.2971

Standard deviation: 8.43394

R^2: 0.96554 Parameters: a = 113.59322

b = 406.90173

c = 41.94922

# Bead 2207 (Rejected)

Date: Mon Oct 17 13:53:04 PDT 2022

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

Frame size: 12 pixels

Coordinates: 159 um (x), 95.4 um (y), 43.2 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	415 nm	433 nm	270 nm
max	795 nm	828 nm	270 nm
Z	2.01 um	2.01 um	1.3 um
Asymmetry	0.523		
Theta	-76.3°		

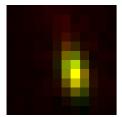
## XY profile & fitting parameters :

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





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



xc = 6.877 px

yc = 6.799 px

#### Parameters:

A = 384.919 (brightness)

B = 121.465 (background)

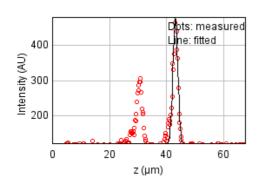
a = 0.746 px

b = -0.130 px

υ – -0.130 px

c = 0.244 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 318572.506

Standard deviation: 32.21328

R^2: 0.72814

Parameters:

a = 120.28317

b = 481.04203

c = 43.15719

Date: Mon Oct 17 13:53:04 PDT 2022

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

Frame size: 12 pixels

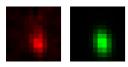
Coordinates: 92.1 um (x), 34.6 um (y), 41.5 um (z)

Corresponding bead: Not found

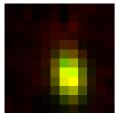
FWHM	Non corrected	Corrected	Theoretical
min	535 nm	557 nm	270 nm
max	828 nm	862 nm	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.646		
Theta	-81.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 208.074 (brightness)

B = 122.491 (background)

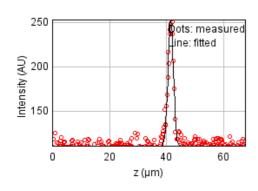
a = 0.463 px

b = -0.039 px

c = 0.201 px

xc = 6.553 pxyc = 7.394 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15771.0017

Standard deviation: 7.16738

R^2: 0.90232 Parameters:

a = 111.27487

b = 253.43172

c = 41.51804

Date: Mon Oct 17 13:53:04 PDT 2022

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

Frame size: 12 pixels

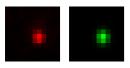
Coordinates: -68.9 um (x), 29.3 um (y), 43.2 um (z)

Corresponding bead: Not found

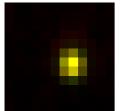
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	491 nm	511 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.834		
Theta	-88.8°		

## XY profile & fitting parameters :

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



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



A = 844.159 (brightness)

B = 127.494 (background)

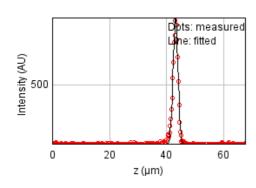
a = 0.800 px

b = -0.005 px

c = 0.557 px

xc = 6.859 pxyc = 6.222 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39450.3100

Standard deviation: 11.33590

R^2: 0.99126 Parameters: a = 115.09810

b = 942.32386

c = 43.21261

Date: Mon Oct 17 13:53:04 PDT 2022

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

Frame size: 12 pixels

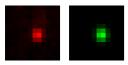
Coordinates: -161 um (x), 25.9 um (y), 42.7 um (z)

Corresponding bead: Not found

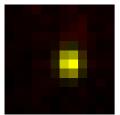
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	414 nm	270 nm
max	479 nm	499 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.829		
Theta	-87.6°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 349.894 (brightness)

B = 113.643 (background)

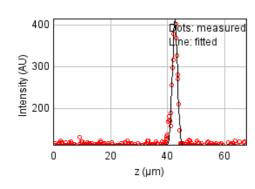
a = 0.850 px

b = -0.011 px

c = 0.585 px

xc = 6.619 pxyc = 5.885 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23161.1527

Standard deviation: 8.68582

R^2: 0.96380 Parameters: a = 111.37201 b = 415.74145

c = 42.65201

Date: Mon Oct 17 13:53:04 PDT 2022

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

Frame size: 12 pixels

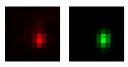
Coordinates: 68.0 um (x), 9.63 um (y), 42.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	561 nm	584 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.674		
Theta	86.6°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 485.612 (brightness)

B = 121.504 (background)

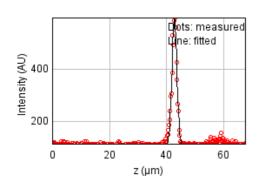
a = 0.937 px

b = 0.031 px

c = 0.428 px

xc = 7.105 pxyc = 6.750 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 38108.5396

Standard deviation: 11.14146

R^2: 0.97526 Parameters: a = 114.99425

b = 596.40503

c = 42.82803

# Bead 2212 (Rejected)

Date: Mon Oct 17 13:53:04 PDT 2022

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

Frame size: 12 pixels

Coordinates: 1.4 um (x), 8.18 um (y), 41.8 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	611 nm	636 nm	270 nm
max	751 nm	782 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.813		
Theta	-72.9°		

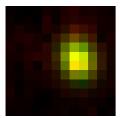
## XY profile & fitting parameters :

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





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



Parameters:

A = 202.374 (brightness)

B = 120.825 (background)

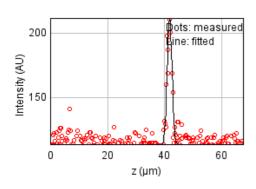
a = 0.349 px

b = -0.034 px

c = 0.248 px

xc = 7.371 pxyc = 5.306 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 14682.9416

Standard deviation: 6.91572

R^2: 0.80958

Parameters:

a = 113.09458

b = 211.34111

c = 41.82714

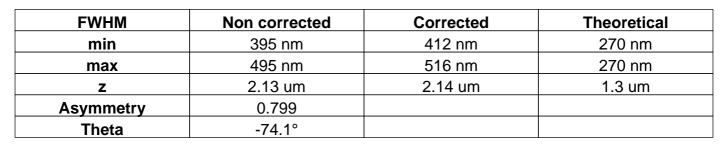
Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

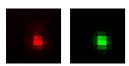
Coordinates: -336 nm (x), -19.4 um (y), 43.0 um (z)

Corresponding bead: Not found

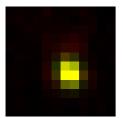


## XY profile & fitting parameters :

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



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



Parameters:

A = 630.543 (brightness)

B = 125.074 (background)

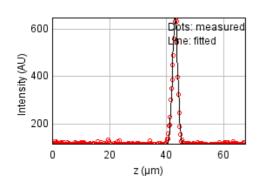
a = 0.835 px

b = -0.082 px

c = 0.571 px

xc = 6.473 pxyc = 6.730 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 35218.2166

Standard deviation: 10.71062

R^2: 0.98256 Parameters:

a = 113.68639

b = 647.94582

c = 43.04986

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

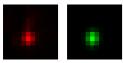
Coordinates: -33.0 um (x), -34.2 um (y), 39.0 um (z)

Corresponding bead: Not found

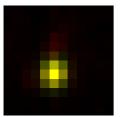
FWHM	Non corrected	Corrected	Theoretical
min	430 nm	447 nm	270 nm
max	515 nm	536 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.834		
Theta	84.5°		

## 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 = 651.245 (brightness)

B = 125.031 (background)

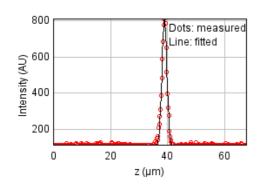
a = 0.725 px

b = 0.021 px

c = 0.508 px

xc = 5.021 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: 30026.0523

Standard deviation: 9.88963

R^2: 0.99066 Parameters:

a = 114.04479

b = 809.04207

c = 38.97370

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

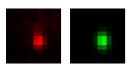
Coordinates: -21.2 um (x), -45.1 um (y), 43.0 um (z)

Corresponding bead: Not found

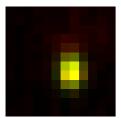
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	587 nm	611 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.719		
Theta	-88.8°		

## XY profile & fitting parameters :

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



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



A = 438.330 (brightness)

B = 124.304 (background)

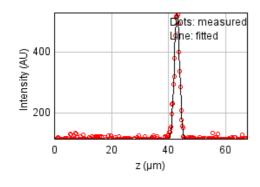
a = 0.754 px

b = -0.008 px

c = 0.390 px

xc = 6.643 pxyc = 6.579 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21552.6069

Standard deviation: 8.37878

R^2: 0.98274 Parameters:

a = 112.77911

b = 531.31529

c = 43.00728

# Bead 2216 (Rejected)

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

Coordinates: -31.8 um (x), -73.9 um (y), 43.5 um (z)

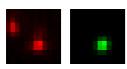
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

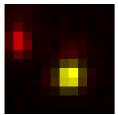
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	445 nm	463 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.909		
Theta	64.7°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.608$$



Parameters:

A = 657.714 (brightness)

B = 149.607 (background)

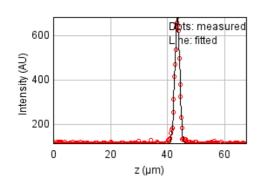
a = 0.795 px

b = 0.055 px

c = 0.705 px

xc = 6.608 pxyc = 7.391 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20109.7660

Standard deviation: 8.09346

R^2: 0.99068

Parameters:

a = 113.64225

b = 687.60024

c = 43.46211

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

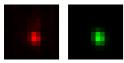
Coordinates: -4.13 um (x), -79.0 um (y), 42.8 um (z)

Corresponding bead: Not found

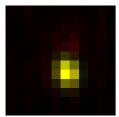
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	407 nm	270 nm
max	502 nm	523 nm	270 nm
Z	1.98 um	1.98 um	1.3 um
Asymmetry	0.778		
Theta	-76.3°		

## XY profile & fitting parameters :

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



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



A = 562.653 (brightness)

B = 120.173 (background)

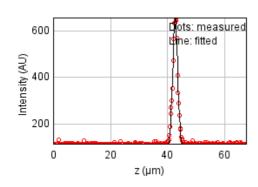
a = 0.860 px

b = -0.080 px

c = 0.552 px

xc = 6.238 pxyc = 6.786 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21511.3812

Standard deviation: 8.37076

R^2: 0.98889 Parameters: a = 112.96425 b = 657.23017

c = 42.75221

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

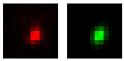
Coordinates: -51.8 um (x), 73.9 um (y), 43.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	418 nm	436 nm	270 nm
max	576 nm	600 nm	270 nm
Z	2.21 um	2.22 um	1.3 um
Asymmetry	0.726		
Theta	69.5°		

## XY profile & fitting parameters :

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





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



Parameters:

A = 928.147(brightness)

B = 123.938(background)

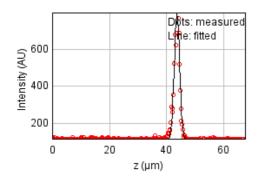
a = 0.723 px

b = 0.119 px

c = 0.449 px

xc = 6.533 pxyc = 6.512 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 87548.3000

Standard deviation: 16.88708

R^2: 0.97486 Parameters:

a = 113.58215

b = 800.48427

c = 43.70122

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

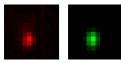
Coordinates: 49.9 um (x), 44.1 um (y), 39.7 um (z)

Corresponding bead: Not found

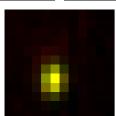
FWHM	Non corrected	Corrected	Theoretical
min	393 nm	409 nm	270 nm
max	559 nm	582 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.703		
Theta	87.4°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 453.924 (brightness)

B = 121.241 (background)

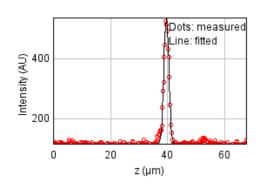
a = 0.869 px

b = 0.020 px

c = 0.431 px

xc = 4.817 pxyc = 7.148 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22776.6912

Standard deviation: 8.61343

R^2: 0.98139 Parameters: a = 114.10888 b = 540.48006

c = 39.66687

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

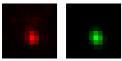
Coordinates: 30.0 um (x), 43.7 um (y), 43.3 um (z)

Corresponding bead: Not found

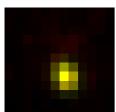
FWHM	Non corrected	Corrected	Theoretical
min	406 nm	422 nm	270 nm
max	519 nm	541 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.781		
Theta	-71.4°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 550.371 (brightness)

B = 122.051 (background)

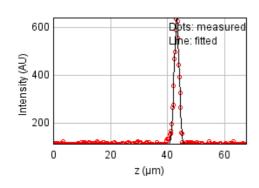
a = 0.783 px

b = -0.096 px

c = 0.530 px

xc = 6.184 pxyc = 7.008 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19244.7543

Standard deviation: 7.91748

R^2: 0.98953 Parameters:

a = 114.15575

b = 641.55186

c = 43.25673

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

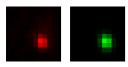
Coordinates: -95.6 um (x), 24.5 um (y), 42.9 um (z)

Corresponding bead: Not found

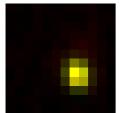
FWHM	Non corrected	Corrected	Theoretical
min	406 nm	423 nm	270 nm
max	510 nm	532 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.796		
Theta	-78.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 583.439 (brightness)

B = 120.066 (background)

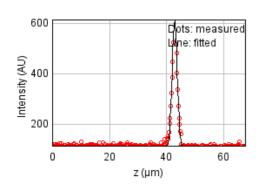
a = 0.800 px

b = -0.061 px

c = 0.528 px

xc = 7.358 pxyc = 7.238 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25990.7174

Standard deviation: 9.20110

R^2: 0.98483 Parameters:

a = 113.19061

b = 613.62297

c = 42.91468

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

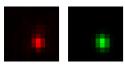
Coordinates: -71.9 um (x), 4.65 um (y), 43.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	498 nm	519 nm	270 nm
Z	1.89 um	1.9 um	1.3 um
Asymmetry	0.824		
Theta	-79.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 640.523 (brightness)

B = 123.937 (background)

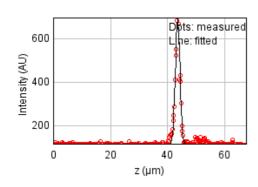
a = 0.788 px

b = -0.045 px

c = 0.549 px

xc = 6.995 pxyc = 7.386 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 58307.0079

Standard deviation: 13.78133

R^2: 0.97270 Parameters: a = 116.37982 b = 695.45138

c = 43.59756

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

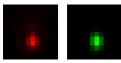
Coordinates: -16.9 um (x), -15.6 um (y), 43.4 um (z)

Corresponding bead: Not found

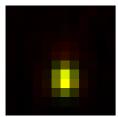
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	417 nm	270 nm
max	511 nm	532 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.783		
Theta	-88.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 835.313 (brightness)

B = 126.070 (background)

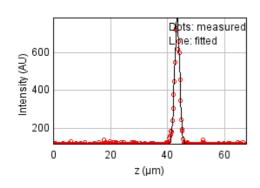
a = 0.838 px

b = -0.009 px

c = 0.514 px

xc = 5.966 pxyc = 7.553 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39545.2000

Standard deviation: 11.34953

R^2: 0.98691 Parameters:

a = 115.34010

b = 784.57999

c = 43.41329

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

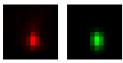
Coordinates: 96.6 um (x), -34.1 um (y), 43.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	396 nm	413 nm	270 nm
max	583 nm	608 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.679		
Theta	-87.8°		

#### XY profile & fitting parameters :

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



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



A = 1022.220 (brightness)

B = 131.195 (background)

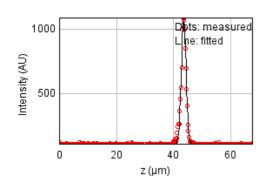
a = 0.854 px

b = -0.018 px

c = 0.395 px

xc = 6.141 pxyc = 7.358 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 54746.7396

Standard deviation: 13.35396

R^2: 0.99094 Parameters:

a = 113.41410

b = 1086.82074

c = 43.61388

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

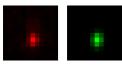
Coordinates: -144 um (x), -40.6 um (y), 42.9 um (z)

Corresponding bead: Not found

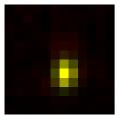
FWHM	Non corrected	Corrected	Theoretical
min	363 nm	378 nm	270 nm
max	508 nm	529 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.715		
Theta	85.3°		

## XY profile & fitting parameters :

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



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



A = 419.528 (brightness)

B = 118.553(background)

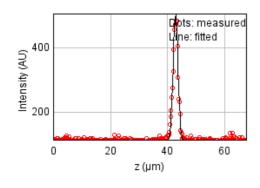
a = 1.014 px

b = 0.041 px

c = 0.523 px

xc = 6.119 pxyc = 7.030 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18875.2106

Standard deviation: 7.84109

R^2: 0.98198 Parameters: a = 111.29624

b = 508.14540

c = 42.87699

# Bead 2226 (Rejected)

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

Coordinates: -133 um (x), -66.0 um (y), 41.0 um (z)

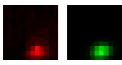
Corresponding bead: Not found

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

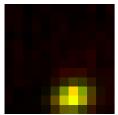
FWHM	Non corrected	Corrected	Theoretical
min	487 nm	507 nm	270 nm
max	646 nm	672 nm	270 nm
Z	2.86 um	2.87 um	1.3 um
Asymmetry	0.754		
Theta	17.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 318.854 (brightness) B = 120.088 (background)

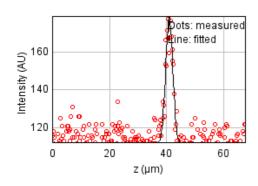
a = 0.343 px

b = 0.069 px

c = 0.546 px

xc = 6.955 pxyc = 9.660 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 12978.0200

Standard deviation: 6.50182

R^2: 0.76292

Parameters:

a = 111.89653

b = 179.42775

c = 41.00838

d = 1.21371

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

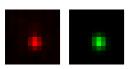
Coordinates: -64.9 um (x), -67.1 um (y), 43.1 um (z)

Corresponding bead: Not found

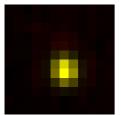
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	499 nm	520 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.864		
Theta	-78.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 601.859 (brightness)

B = 122.504 (background)

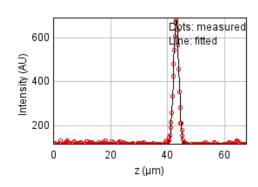
a = 0.714 px

b = -0.036 px

c = 0.546 px

xc = 6.083 pxyc = 6.676 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22630.3847

Standard deviation: 8.58572

R^2: 0.99037 Parameters:

a = 115.30545

b = 692.09901

c = 43.08897

Date: Mon Oct 17 13:53:05 PDT 2022

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

Frame size: 12 pixels

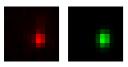
Coordinates: 74.0 um (x), -73.7 um (y), 43.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	385 nm	401 nm	270 nm
max	542 nm	564 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.71		
Theta	86.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 653.638 (brightness)

B = 124.329 (background)

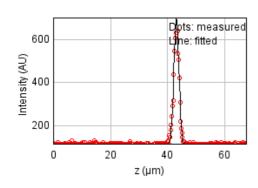
a = 0.906 px

b = 0.026 px

c = 0.459 px

xc = 7.264 pxyc = 6.658 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22104.0523

Standard deviation: 8.48529

R^2: 0.99064 Parameters: a = 113.10920 b = 703.66852

c = 43.17178

Date: Mon Oct 17 13:53:06 PDT 2022

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

Frame size: 12 pixels

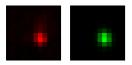
Coordinates: -99.0 um (x), 46.2 um (y), 43.2 um (z)

Corresponding bead: Not found

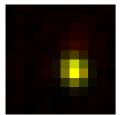
FWHM	Non corrected	Corrected	Theoretical
min	423 nm	441 nm	270 nm
max	503 nm	524 nm	270 nm
Z	2.17 um	2.18 um	1.3 um
Asymmetry	0.841		
Theta	-78.5°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 556.947 (brightness)

B = 122.087 (background)

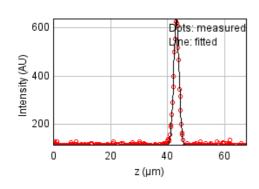
a = 0.740 px

b = -0.043 px

c = 0.538 px

xc = 7.021 pxyc = 6.677 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18069.0387

Standard deviation: 7.67182

R^2: 0.99069 Parameters: a = 114.32353 b = 636.11340

c = 43.15898

Date: Mon Oct 17 13:53:06 PDT 2022

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

Frame size: 12 pixels

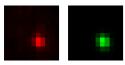
Coordinates: -71.0 um (x), 30.8 um (y), 43.4 um (z)

Corresponding bead: Not found

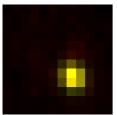
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	475 nm	495 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.845		
Theta	-69.7°		

## XY profile & fitting parameters :

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



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



A = 501.912 (brightness)

B = 122.219 (background)

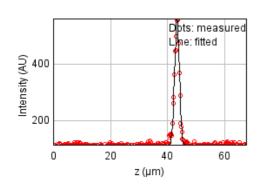
a = 0.804 px

b = -0.078 px

c = 0.624 px

xc = 7.190 pxyc = 7.415 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25748.9267

Standard deviation: 9.15821

R^2: 0.97988 Parameters: a = 114.16615 b = 558.53695

c = 43.36703

# Bead 2231 (Rejected)

Date: Mon Oct 17 13:53:06 PDT 2022

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

Frame size: 12 pixels

Coordinates: 1.4 um (x), 8.18 um (y), 41.8 um (z)

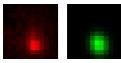
Corresponding bead: Not found

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

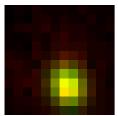
FWHM	Non corrected	Corrected	Theoretical
min	616 nm	642 nm	270 nm
max	757 nm	789 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.814		
Theta	-72.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 201.982 (brightness)

B = 120.178 (background)

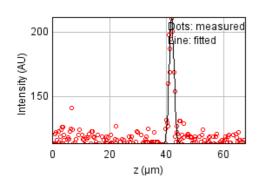
a = 0.343 px

b = -0.034 px

c = 0.244 px

xc = 6.371 pxyc = 8.301 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 14682.9416

Standard deviation: 6.91572

R^2: 0.80958

Parameters:

a = 113.09458

b = 211.34111

c = 41.82714

Date: Mon Oct 17 13:53:06 PDT 2022

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

Frame size: 12 pixels

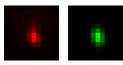
Coordinates: 126 um (x), 6.2 um (y), 43.5 um (z)

Corresponding bead: Not found

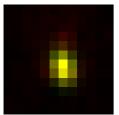
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	603 nm	628 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.665		
Theta	-79.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 584.392 (brightness)

B = 123.892 (background)

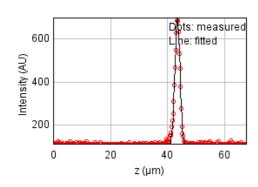
a = 0.819 px

b = -0.082 px

c = 0.384 px

xc = 6.014 pxyc = 6.313 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19108.3935

Standard deviation: 7.88938

R^2: 0.99189 Parameters:

a = 111.72379

b = 699.57754

c = 43.52267

Date: Mon Oct 17 13:53:07 PDT 2022

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

Frame size: 12 pixels

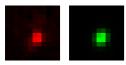
Coordinates: -134 um (x), 3.71 um (y), 43.2 um (z)

Corresponding bead: Not found

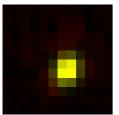
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	517 nm	539 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.815		
Theta	69.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 380.649 (brightness)

B = 120.498 (background)

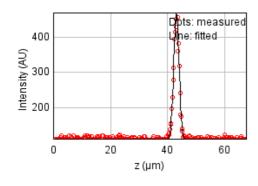
a = 0.724 px

b = 0.084 px

c = 0.533 px

xc = 6.532 pxyc = 6.619 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17275.0504

Standard deviation: 7.50137

R^2: 0.98119 Parameters: a = 111.77461 b = 468.06414

c = 43.17004

Date: Mon Oct 17 13:53:07 PDT 2022

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

Frame size: 12 pixels

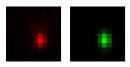
Coordinates: 23.1 um (x), -2.27 um (y), 43.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	384 nm	400 nm	270 nm
max	562 nm	585 nm	270 nm
Z	2.01 um	2.01 um	1.3 um
Asymmetry	0.684		
Theta	-86.4°		

#### XY profile & fitting parameters :

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



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



A = 553.237 (brightness)

B = 121.809 (background)

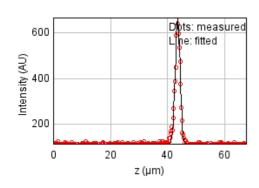
a = 0.908 px

b = -0.030 px

c = 0.427 px

xc = 7.070 pxyc = 6.839 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26026.5791

Standard deviation: 9.20745

R^2: 0.98701 Parameters:

a = 114.74344

b = 664.09553

c = 43.60382

Date: Mon Oct 17 13:53:07 PDT 2022

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

Frame size: 12 pixels

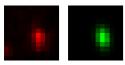
Coordinates: -19.3 um (x), -44.4 um (y), 44.1 um (z)

Corresponding bead: Not found

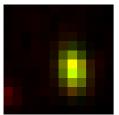
FWHM	Non corrected	Corrected	Theoretical
min	450 nm	468 nm	270 nm
max	711 nm	741 nm	270 nm
Z	1.25 um	1.25 um	1.3 um
Asymmetry	0.632		
Theta	-81.8°		

## XY profile & fitting parameters :

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



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



A = 630.137 (brightness)

B = 136.942 (background)

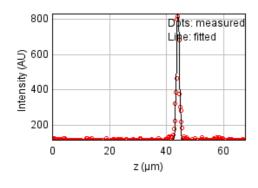
a = 0.656 px

b = -0.056 px

c = 0.273 px

xc = 7.095 pxyc = 6.534 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 71593.8436

Standard deviation: 15.27104

R^2: 0.96782 Parameters: a = 114.81009 b = 835.58835 c = 44.05265

Date: Mon Oct 17 13:53:07 PDT 2022

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

Frame size: 12 pixels

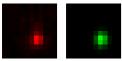
Coordinates: 20.3 um (x), -55.4 um (y), 43.4 um (z)

Corresponding bead: Not found

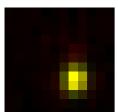
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	497 nm	518 nm	270 nm
Z	1.85 um	1.86 um	1.3 um
Asymmetry	0.823		
Theta	84.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 559.675(brightness)

B = 119.611(background)

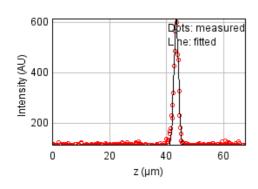
a = 0.800 px

b = 0.026 px

c = 0.546 px

xc = 7.197 pxyc = 7.349 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28659.7826

Standard deviation: 9.66200

R^2: 0.98180 Parameters:

a = 114.21909

b = 618.23337

c = 43.43349

Date: Mon Oct 17 13:53:07 PDT 2022

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

Frame size: 12 pixels

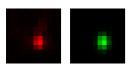
Coordinates: 24.8 um (x), -68.7 um (y), 43.4 um (z)

Corresponding bead: Not found

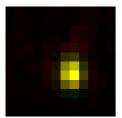
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	407 nm	270 nm
max	523 nm	545 nm	270 nm
Z	1.89 um	1.9 um	1.3 um
Asymmetry	0.747		
Theta	-88.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 539.803 (brightness)

B = 123.896 (background)

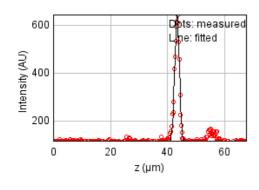
a = 0.877 px

b = -0.010 px

c = 0.491 px

xc = 6.710 pxyc = 6.806 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 48256.3379

Standard deviation: 12.53741

R^2: 0.97292 Parameters: a = 116.48317 b = 645.81919

c = 43.38573

Date: Mon Oct 17 13:53:08 PDT 2022

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

Frame size: 12 pixels

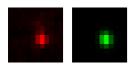
Coordinates: -153 um (x), -93.9 um (y), 43.0 um (z)

Corresponding bead: Not found

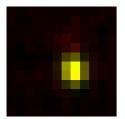
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	424 nm	270 nm
max	497 nm	517 nm	270 nm
Z	2.29 um	2.3 um	1.3 um
Asymmetry	0.819		
Theta	-81.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 419.709 (brightness)

B = 117.397 (background)

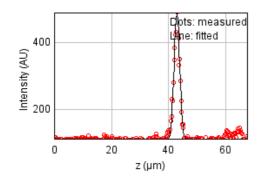
a = 0.805 px

b = -0.038 px

c = 0.549 px

xc = 6.841 pxyc = 6.469 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 33015.5778

Standard deviation: 10.37027

R^2: 0.96917 Parameters: a = 113.88909 b = 487.53680

c = 42.98862

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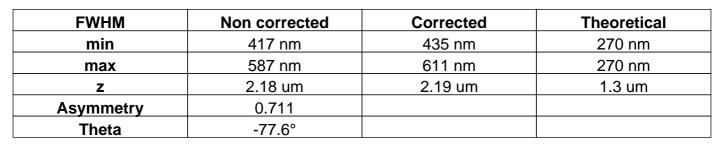
Date: Mon Oct 17 13:53:08 PDT 2022

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

Frame size: 12 pixels

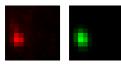
Coordinates: 82.1 um (x), 93.0 um (y), 20.6 um (z)

Corresponding bead: Not found

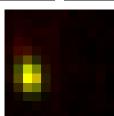


### XY profile & fitting parameters :

(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 = 396.737 (brightness)

B = 122.809 (background)

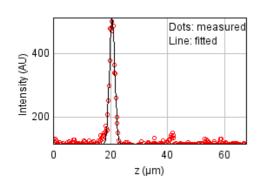
a = 0.753 px

b = -0.080 px

c = 0.407 px

xc = 2.262 pxyc = 6.765 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 37423.3138

Standard deviation: 11.04084

R^2: 0.96748 Parameters: a = 115.93403 b = 512.15737 c = 20.64451

# Bead 2240 (Rejected)

Date: Mon Oct 17 13:53:08 PDT 2022

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

Frame size: 12 pixels

Coordinates: 28.0 um (x), 87.6 um (y), 42.5 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	651 nm	678 nm	270 nm
max	903 nm	940 nm	270 nm
Z	3.08 um	3.09 um	1.3 um
Asymmetry	0.721		
Theta	-84.6°		

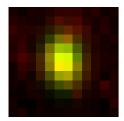
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.889$$



Parameters:

A = 166.349 (brightness) B = 124.959 (background)

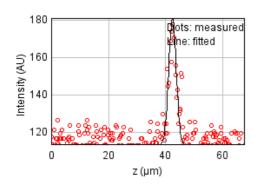
a = 0.315 px

b = -0.014 px

c = 0.166 px

xc = 5.478 pxyc = 5.330 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 15995.7489

Standard deviation: 7.21827

R^2: 0.73428 Parameters:

a = 113.67084

b = 180.80944

c = 42.48807

d = 1.30645

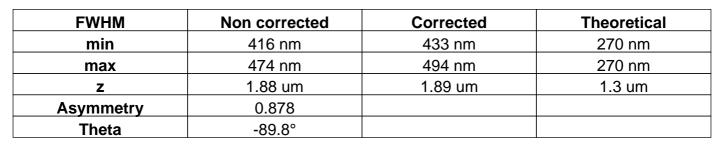
Date: Mon Oct 17 13:53:08 PDT 2022

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

Frame size: 12 pixels

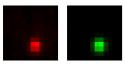
Coordinates: -39.5 um (x), 19.6 um (y), 39.9 um (z)

Corresponding bead: Not found

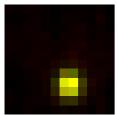


### XY profile & fitting parameters :

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



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



Parameters:

A = 585.004 (brightness)

B = 124.225 (background)

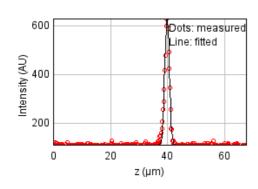
a = 0.775 px

b = -0.001 px

c = 0.598 px

xc = 6.560 pxyc = 8.263 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25888.6835

Standard deviation: 9.18303

R^2: 0.98457 Parameters:

a = 112.57920

b = 630.10764

c = 39.90837

Date: Mon Oct 17 13:53:08 PDT 2022

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

Frame size: 12 pixels

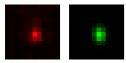
Coordinates: 86.1 um (x), 2.28 um (y), 43.6 um (z)

Corresponding bead: Not found

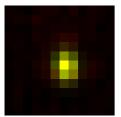
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	412 nm	270 nm
max	541 nm	563 nm	270 nm
Z	1.86 um	1.87 um	1.3 um
Asymmetry	0.731		
Theta	-85.8°		

### XY profile & fitting parameters :

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



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



A = 397.420 (brightness)

B = 119.264 (background)

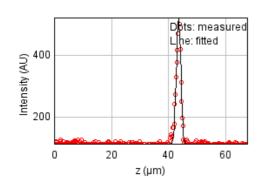
a = 0.856 px

b = -0.029 px

c = 0.461 px

xc = 6.202 pxyc = 6.129 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22758.0488

Standard deviation: 8.60990

R^2: 0.97805 Parameters: a = 112.23188 b = 519.86832

c = 43.57691

Date: Mon Oct 17 13:53:08 PDT 2022

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

Frame size: 12 pixels

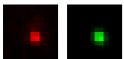
Coordinates: -67.4 um (x), -2.89 um (y), 43.9 um (z)

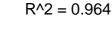
Corresponding bead: Not found

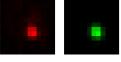
FWHM	Non corrected	Corrected	Theoretical
min	394 nm	410 nm	270 nm
max	463 nm	483 nm	270 nm
Z	2.09 um	2.09 um	1.3 um
Asymmetry	0.85		
Theta	-69.7°		

### XY profile & fitting parameters :

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







Parameters:

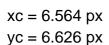
A = 666.824 (brightness)

B = 124.313 (background)

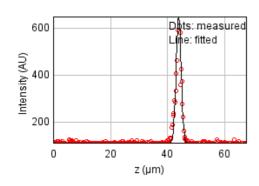
a = 0.837 px

b = -0.078 px

c = 0.654 px



# Z profile & fitting parameters:



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

Sum of residuals squared: 66727.9973

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

Standard deviation: 14.74297

R^2: 0.96675 Parameters:

a = 113.52846

b = 647.37243

c = 43.94596

Date: Mon Oct 17 13:53:08 PDT 2022

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

Frame size: 12 pixels

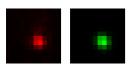
Coordinates: -60.8 um (x), -25.1 um (y), 43.9 um (z)

Corresponding bead: Not found

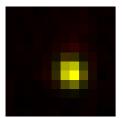
FWHM	Non corrected	Corrected	Theoretical
min	435 nm	453 nm	270 nm
max	486 nm	506 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.895		
Theta	-63.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 711.879 (brightness)

B = 124.172 (background)

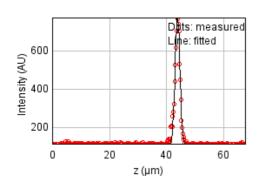
a = 0.681 px

b = -0.056 px

c = 0.596 px

xc = 6.654 pxyc = 6.714 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 35328.5056

Standard deviation: 10.72737

R^2: 0.98780 Parameters:

a = 114.31093

b = 775.21960

c = 43.89685

Date: Mon Oct 17 13:53:09 PDT 2022

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

Frame size: 12 pixels

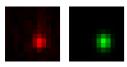
Coordinates: -145 um (x), -27.9 um (y), 43.7 um (z)

Corresponding bead: Not found

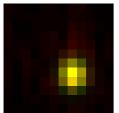
FWHM	Non corrected	Corrected	Theoretical
min	460 nm	479 nm	270 nm
max	551 nm	574 nm	270 nm
Z	2.2 um	2.21 um	1.3 um
Asymmetry	0.835		
Theta	-87.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 329.389(brightness)

B = 119.241(background)

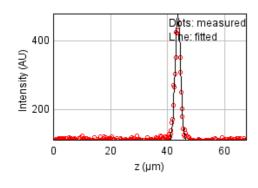
a = 0.633 px

b = -0.008 px

c = 0.442 px

xc = 7.094 pxyc = 7.256 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29032.2035

Standard deviation: 9.72458

R^2: 0.97111 Parameters: a = 110.65244b = 479.64538

c = 43.66892

Date: Mon Oct 17 13:53:09 PDT 2022

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

Frame size: 12 pixels

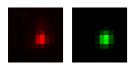
Coordinates: -106 um (x), -31.0 um (y), 44.0 um (z)

Corresponding bead: Not found

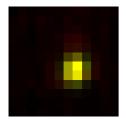
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	495 nm	516 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.827		
Theta	81.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 614.615 (brightness)

B = 120.734 (background)

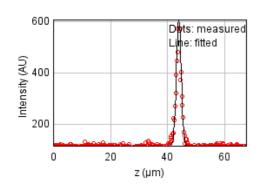
a = 0.794 px

b = 0.037 px

c = 0.553 px

xc = 6.765 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: 46131.9936

Standard deviation: 12.25835

R^2: 0.97192 Parameters: a = 114.33351 b = 608.02787 c = 44.00374

Date: Mon Oct 17 13:53:09 PDT 2022

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

Frame size: 12 pixels

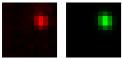
Coordinates: -117 um (x), -34.3 um (y), 15.7 um (z)

Corresponding bead: Not found

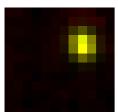
FWHM	Non corrected	Corrected	Theoretical
min	442 nm	460 nm	270 nm
max	519 nm	541 nm	270 nm
Z	2.42 um	2.43 um	1.3 um
Asymmetry	0.851		
Theta	-75.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 315.809 (brightness)

B = 117.445 (background)

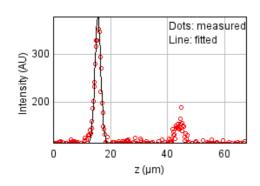
a = 0.675 px

b = -0.045 px

c = 0.509 px

xc = 8.059 pxyc = 3.556 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

d = 1.02951

Date: Mon Oct 17 13:53:09 PDT 2022

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

Frame size: 12 pixels

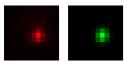
Coordinates: 33.9 um (x), -58.9 um (y), 43.5 um (z)

Corresponding bead: Not found

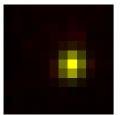
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	488 nm	508 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.839		
Theta	80.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 565.357 (brightness)

B = 122.018 (background)

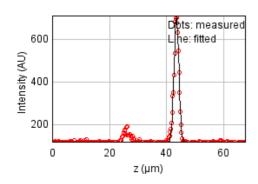
a = 0.794 px

b = 0.040 px

c = 0.571 px

xc = 6.964 pxyc = 6.075 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 56428.5612

Standard deviation: 13.55752

R^2: 0.97593 Parameters: a = 117.10069 b = 712.55791

c = 43.52265

Date: Mon Oct 17 13:53:09 PDT 2022

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

Frame size: 12 pixels

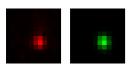
Coordinates: -38.1 um (x), -75.1 um (y), 44.1 um (z)

Corresponding bead: Not found

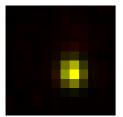
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	417 nm	270 nm
max	484 nm	504 nm	270 nm
Z	1.99 um	1.99 um	1.3 um
Asymmetry	0.828		
Theta	-81.9°		

### 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 = 607.940 (brightness)

B = 124.047 (background)

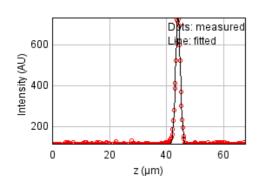
a = 0.831 px

b = -0.037 px

c = 0.579 px

xc = 6.810 pxyc = 6.818 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 23778.0830

Standard deviation: 8.80074

R^2: 0.99063 Parameters:

a = 113.30787

b = 735.48185

c = 44.06017

# Bead 2250 (Rejected)

Date: Mon Oct 17 13:53:09 PDT 2022

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

Frame size: 12 pixels

Coordinates: 24.2 um (x), -96.7 um (y), 38.9 um (z)

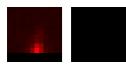
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	1.87 um	1.88 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

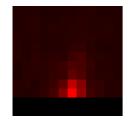
### XY profile & fitting parameters :

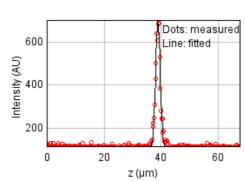
(red: the original data, green: the fit, yellow: the two merged)



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: 48789.7665

Standard deviation: 12.60652

R^2: 0.97739 Parameters: a = 114.28033 b = 700.77506

c = 38.93457

# Bead 2251 (Rejected)

Date: Mon Oct 17 13:53:10 PDT 2022

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

Frame size: 12 pixels

Coordinates: 102 um (x), 91.8 um (y), 43.8 um (z)

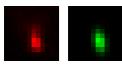
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	394 nm	411 nm	270 nm
max	744 nm	775 nm	270 nm
Z	3.47 um	3.49 um	1.3 um
Asymmetry	0.53		
Theta	-79.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 574.096 (brightness)

B = 125.876 (background)

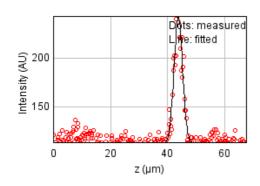
a = 0.843 px

b = -0.111 px

c = 0.263 px

xc = 6.405 pxyc = 7.258 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19933.5634

Standard deviation: 8.05793

R^2: 0.90100 Parameters:

a = 113.82408

b = 242.46032

c = 43.82174

d = 1.47456

# Bead 2252 (Rejected)

Date: Mon Oct 17 13:53:10 PDT 2022

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

Frame size: 12 pixels

Coordinates: 145 um (x), 92.1 um (y), 43.6 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	397 nm	414 nm	270 nm
max	643 nm	670 nm	270 nm
Z	2.03 um	2.03 um	1.3 um
Asymmetry	0.618		
Theta	-72.2°		

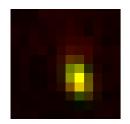
## XY profile & fitting parameters :

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





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



Parameters:

A = 303.930 (brightness)

B = 118.689 (background)

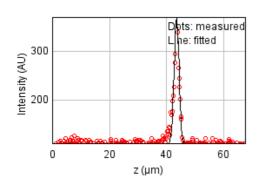
a = 0.801 px

b = -0.153 px

c = 0.373 px

xc = 6.855 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: 27394.0989

Standard deviation: 9.44625

R^2: 0.94180 Parameters:

a = 111.60451

b = 370.36479

c = 43.57523

Date: Mon Oct 17 13:53:10 PDT 2022

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

Frame size: 12 pixels

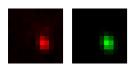
Coordinates: -5.65 um (x), 85.2 um (y), 43.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	381 nm	397 nm	270 nm
max	525 nm	547 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.726		
Theta	-74.5°		

### XY profile & fitting parameters :

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



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



A = 666.417 (brightness)

B = 126.502 (background)

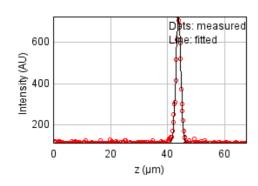
a = 0.892 px

b = -0.112 px

c = 0.517 px

xc = 7.307 pxyc = 7.082 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27790.4201

Standard deviation: 9.51433

R^2: 0.98897 Parameters: a = 113.63424

a = 110.00+2+

b = 725.17759

c = 43.85459

Date: Mon Oct 17 13:53:10 PDT 2022

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

Frame size: 12 pixels

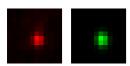
Coordinates: -119 um (x), 77.7 um (y), 43.8 um (z)

Corresponding bead: Not found

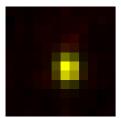
FWHM	Non corrected	Corrected	Theoretical
min	408 nm	424 nm	270 nm
max	514 nm	535 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.794		
Theta	-87.1°		

### XY profile & fitting parameters :

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



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



A = 497.618 (brightness)

B = 119.827 (background)

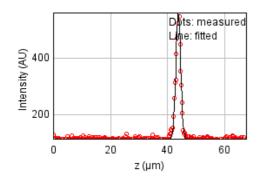
a = 0.807 px

b = -0.015 px

c = 0.510 px

xc = 6.278 pxyc = 6.294 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21732.3567

Standard deviation: 8.41365

R^2: 0.98348 Parameters: a = 112.67303

b = 559.44295

c = 43.81395

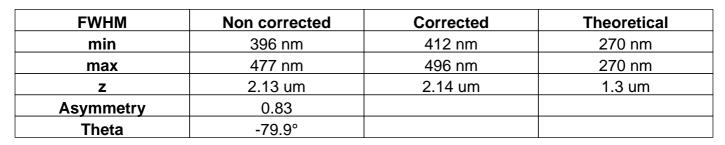
Date: Mon Oct 17 13:53:10 PDT 2022

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

Frame size: 12 pixels

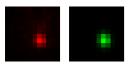
Coordinates: -114 um (x), 66.8 um (y), 43.9 um (z)

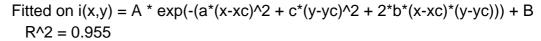
Corresponding bead: Not found



### XY profile & fitting parameters :

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







Parameters:

A = 642.597 (brightness)

B = 124.987 (background)

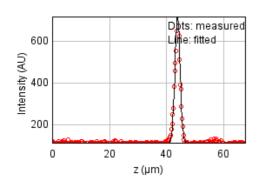
a = 0.849 px

b = -0.046 px

c = 0.599 px

xc = 7.197 pxyc = 6.851 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 31809.0864

Standard deviation: 10.17903

R^2: 0.98775 Parameters: a = 112.34012

b = 719.59809

c = 43.89728

Date: Mon Oct 17 13:53:10 PDT 2022

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

Frame size: 12 pixels

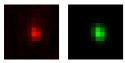
Coordinates: 61.7 um (x), 42.4 um (y), 43.7 um (z)

Corresponding bead: Not found

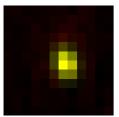
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	413 nm	270 nm
max	540 nm	562 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.735		
Theta	-75.7°		

### XY profile & fitting parameters :

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



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



A = 429.835 (brightness)

B = 120.233 (background)

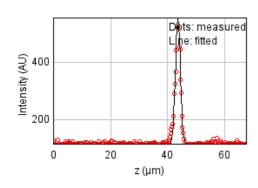
a = 0.828 px

b = -0.094 px

c = 0.485 px

xc = 6.292 pxyc = 5.783 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 28806.2576

Standard deviation: 9.68666

R^2: 0.97873 Parameters: a = 113.91682 b = 559.72170

c = 43.68692

Date: Mon Oct 17 13:53:10 PDT 2022

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

Frame size: 12 pixels

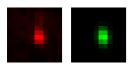
Coordinates: 116 um (x), 38.4 um (y), 43.4 um (z)

Corresponding bead : Not found

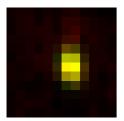
FWHM	Non corrected	Corrected	Theoretical
min	390 nm	406 nm	270 nm
max	599 nm	624 nm	270 nm
Z	2.16 um	2.17 um	1.3 um
Asymmetry	0.651		
Theta	-84.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 374.897 (brightness)

B = 117.615 (background)

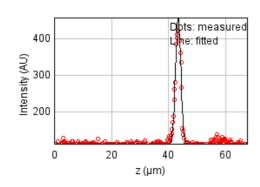
a = 0.876 px

b = -0.050 px

c = 0.379 px

xc = 6.525 pxyc = 5.875 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25842.3768

Standard deviation: 9.17481

R^2: 0.97033 Parameters: a = 112.82639 b = 459.21997

c = 43.42998d = 0.91835

Date: Mon Oct 17 13:53:11 PDT 2022

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

Frame size: 12 pixels

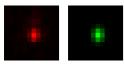
Coordinates: -110 um (x), 22.8 um (y), 43.9 um (z)

Corresponding bead: Not found

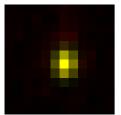
FWHM	Non corrected	Corrected	Theoretical
min	376 nm	392 nm	270 nm
max	499 nm	520 nm	270 nm
Z	2.16 um	2.17 um	1.3 um
Asymmetry	0.753		
Theta	87.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 558.752 (brightness)

B = 120.714 (background)

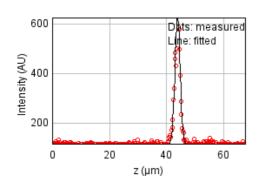
a = 0.947 px

b = 0.017 px

c = 0.539 px

xc = 6.109 pxyc = 5.916 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 53878.6762

Standard deviation: 13.24766

R^2: 0.97195 Parameters: a = 113.59183 b = 628.97077 c = 43.89860

Date: Mon Oct 17 13:53:11 PDT 2022

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

Frame size: 12 pixels

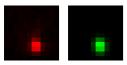
Coordinates: -16.0 um (x), 12.6 um (y), 40.0 um (z)

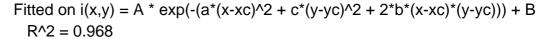
Corresponding bead: Not found

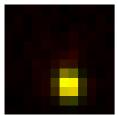
FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	505 nm	526 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.808		
Theta	-81.1°		

### XY profile & fitting parameters :

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







Parameters:

A = 588.021 (brightness)

B = 123.573 (background)

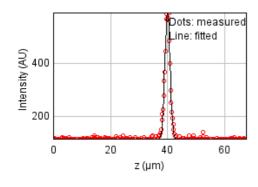
a = 0.799 px

b = -0.043 px

c = 0.533 px

xc = 6.485 pxyc = 8.295 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24722.5683

Standard deviation: 8.97383

R^2: 0.98456 Parameters:

a = 113.70594

b = 591.90576

c = 40.03953

Date: Mon Oct 17 13:53:11 PDT 2022

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

Frame size: 12 pixels

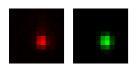
Coordinates: -59.9 um (x), -22.7 um (y), 44.3 um (z)

Corresponding bead: Not found

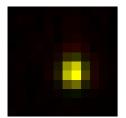
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	420 nm	270 nm
max	490 nm	510 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.824		
Theta	-89.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 935.457 (brightness)

B = 130.308 (background)

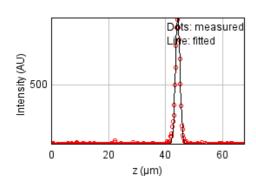
a = 0.823 px

b = -0.004 px

c = 0.560 px

xc = 6.694 pxyc = 6.711 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29963.2481

Standard deviation: 9.87928

R^2: 0.99321 Parameters: a = 113.45431 b = 948.30640 c = 44.33249

Date: Mon Oct 17 13:53:11 PDT 2022

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

Frame size: 12 pixels

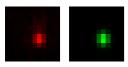
Coordinates: 32.1 um (x), -53.7 um (y), 43.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	395 nm	412 nm	270 nm
max	491 nm	511 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.806		
Theta	-87.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 651.563 (brightness)

B = 122.208 (background)

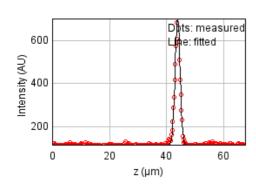
a = 0.858 px

b = -0.012 px

c = 0.558 px

xc = 6.990 pxyc = 6.598 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 22896.5142

Standard deviation: 8.63606

R^2: 0.99034 Parameters: a = 113.32495

b = 702.32012

c = 43.91600

Date: Mon Oct 17 13:53:12 PDT 2022

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

Frame size: 12 pixels

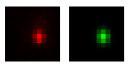
Coordinates: 79.6 um (x), -55.8 um (y), 43.9 um (z)

Corresponding bead: Not found

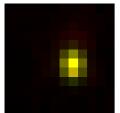
FWHM	Non corrected	Corrected	Theoretical
min	396 nm	412 nm	270 nm
max	514 nm	535 nm	270 nm
Z	1.84 um	1.84 um	1.3 um
Asymmetry	0.77		
Theta	-88.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 578.692 (brightness)

B = 121.504 (background)

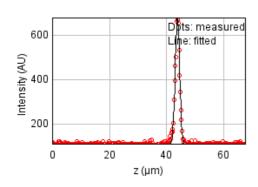
a = 0.856 px

b = -0.009 px

c = 0.508 px

xc = 6.960 pxyc = 6.137 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24377.1205

Standard deviation: 8.91091

R^2: 0.98763 Parameters: a = 112.24341 b = 680.59426

c = 43.85968

Date: Mon Oct 17 13:53:12 PDT 2022

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

Frame size: 12 pixels

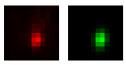
Coordinates: 86.4 um (x), -57.7 um (y), 44.1 um (z)

Corresponding bead: Not found

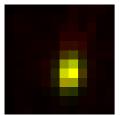
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	420 nm	270 nm
max	603 nm	628 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.669		
Theta	82.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 557.191 (brightness)

B = 120.335 (background)

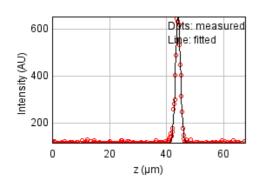
a = 0.817 px

b = 0.056 px

c = 0.376 px

xc = 6.606 pxyc = 6.927 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18265.2918

Standard deviation: 7.71337

R^2: 0.99086 Parameters: a = 112.73360

b = 653.76807

c = 44.06944

# Bead 2264 (Rejected)

Date: Mon Oct 17 13:53:12 PDT 2022

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

Frame size: 12 pixels

Coordinates: 28.0 um (x), 87.6 um (y), 42.5 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	642 nm	669 nm	270 nm
max	906 nm	944 nm	270 nm
Z	3.08 um	3.09 um	1.3 um
Asymmetry	0.708		
Theta	-84.9°		

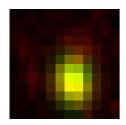
## XY profile & fitting parameters :

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





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



Parameters:

A = 165.190 (brightness)

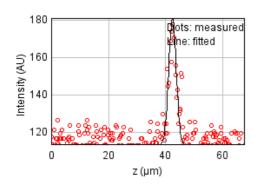
B = 126.042 (background) a = 0.324 px

b = -0.014 px

c = 0.165 px

xc = 6.478 pxyc = 7.340 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 15995.7489

Standard deviation: 7.21827

R^2: 0.73428 Parameters:

a = 113.67084

b = 180.80944

c = 42.48807

d = 1.30645

# Bead 2265 (Rejected)

Date: Mon Oct 17 13:53:12 PDT 2022

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

Frame size: 12 pixels

Coordinates: -164 um (x), 81.4 um (y), 42.9 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	2.23 um	2.24 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

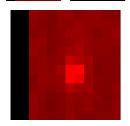
### XY profile & fitting parameters :

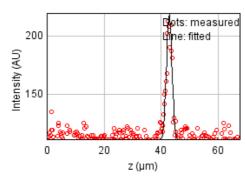
(red: the original data, green: the fit, yellow: the two merged)



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: 14521.9299

Standard deviation: 6.87770

R^2: 0.85539 Parameters: a = 110.68298 b = 219.57605

c = 42.89345

# Bead 2266 (Rejected)

Date: Mon Oct 17 13:53:12 PDT 2022

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

Frame size: 12 pixels

Coordinates: -11.4 um (x), 44.3 um (y), 40.4 um (z)

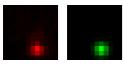
Corresponding bead: Not found

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

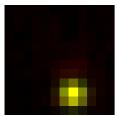
FWHM	Non corrected	Corrected	Theoretical
min	458 nm	477 nm	270 nm
max	468 nm	487 nm	270 nm
Z	3.62 um	3.64 um	1.3 um
Asymmetry	0.978		
Theta	-36.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 643.382 (brightness) B = 126.849 (background)

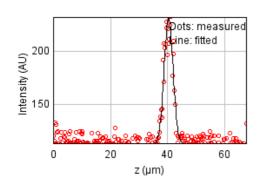
a = 0.623 px

b = -0.014 px

c = 0.631 px

xc = 6.978 pxyc = 9.221 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19462.8667

Standard deviation: 7.96222

R^2: 0.89287 Parameters:

a = 112.81016

b = 232.14273

c = 40.43672

d = 1.53751

Date: Mon Oct 17 13:53:12 PDT 2022

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

Frame size: 12 pixels

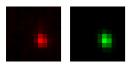
Coordinates: -94.1 um (x), 18.4 um (y), 43.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	383 nm	399 nm	270 nm
max	514 nm	535 nm	270 nm
Z	2.03 um	2.04 um	1.3 um
Asymmetry	0.746		
Theta	-76.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 476.606 (brightness)

B = 118.914 (background)

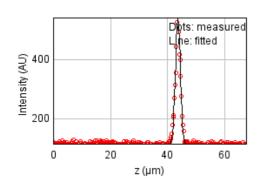
a = 0.891 px

b = -0.092 px

c = 0.530 px

xc = 7.264 pxyc = 6.911 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25953.7205

Standard deviation: 9.19455

R^2: 0.97916 Parameters:

a = 113.89379

b = 542.73691

c = 43.67998

Date: Mon Oct 17 13:53:13 PDT 2022

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

Frame size: 12 pixels

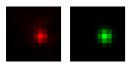
Coordinates: 12.8 um (x), 14.0 um (y), 44.3 um (z)

Corresponding bead: Not found

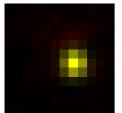
FWHM	Non corrected	Corrected	Theoretical
min	436 nm	454 nm	270 nm
max	490 nm	510 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.89		
Theta	-82.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 606.155 (brightness)

B = 126.039 (background)

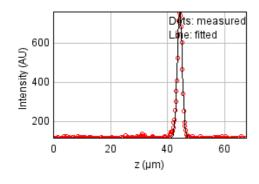
a = 0.704 px

b = -0.020 px

c = 0.562 px

xc = 7.136 pxyc = 6.018 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29943.4478

Standard deviation: 9.87601

R^2: 0.98958 Parameters: a = 114.79435 b = 762.79667 c = 44.34678

Date: Mon Oct 17 13:53:13 PDT 2022

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

Frame size: 12 pixels

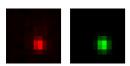
Coordinates: -71.3 um (x), -8.56 um (y), 44.1 um (z)

Corresponding bead: Not found

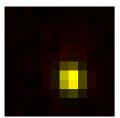
FWHM	Non corrected	Corrected	Theoretical
min	406 nm	422 nm	270 nm
max	471 nm	491 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.861		
Theta	-80.7°		

### XY profile & fitting parameters :

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



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



A = 740.696 (brightness)

B = 123.258 (background)

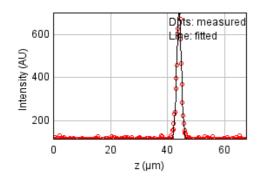
a = 0.810 px

b = -0.034 px

c = 0.610 px

xc = 6.730 pxyc = 7.412 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21303.3836

Standard deviation: 8.33019

R^2: 0.99046 Parameters:

a = 113.44418

b = 704.86178

c = 44.08111

# Bead 2270 (Rejected)

Date: Mon Oct 17 13:53:13 PDT 2022

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

Frame size: 12 pixels

Coordinates: 113 um (x), -20.2 um (y), 40.8 um (z)

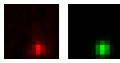
Corresponding bead: Not found

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

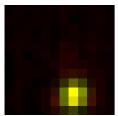
FWHM	Non corrected	Corrected	Theoretical
min	442 nm	461 nm	270 nm
max	495 nm	515 nm	270 nm
Z	3.59 um	3.61 um	1.3 um
Asymmetry	0.894		
Theta	74.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 351.364 (brightness)

B = 120.279 (background)

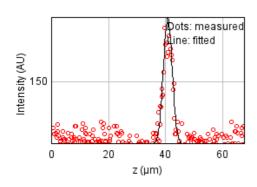
a = 0.676 px

b = 0.035 px

c = 0.558 px

xc = 7.065 pxyc = 9.361 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 14538.2499

Standard deviation: 6.88156

R^2: 0.83185 Parameters:

a = 110.87494

b = 190.59796

c = 40.84638

d = 1.52642

Date: Mon Oct 17 13:53:13 PDT 2022

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

Frame size: 12 pixels

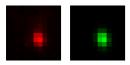
Coordinates: 7.62 um (x), -25.6 um (y), 44.3 um (z)

Corresponding bead: Not found

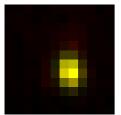
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	419 nm	270 nm
max	558 nm	581 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.721		
Theta	-80.9°		

### XY profile & fitting parameters :

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



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



A = 683.860 (brightness)

B = 121.042 (background)

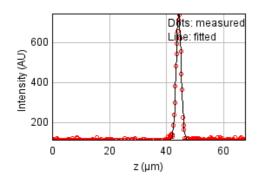
a = 0.818 px

b = -0.062 px

c = 0.441 px

xc = 6.624 pxyc = 6.804 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28609.0947

Standard deviation: 9.65346

R^2: 0.98957 Parameters:

a = 112.80535

b = 747.10246

c = 44.31667

# Bead 2272 (Rejected)

Date: Mon Oct 17 13:53:13 PDT 2022

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

Frame size: 12 pixels

Coordinates: -130 um (x), -54.2 um (y), 40.6 um (z)

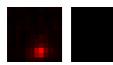
Corresponding bead: Not found

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	3.54 um	3.55 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

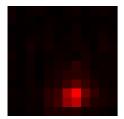
### XY profile & fitting parameters :

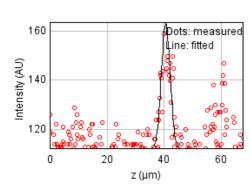
(red: the original data, green: the fit, yellow: the two merged)



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: 20973.4086

Standard deviation: 8.26543

R^2: 0.58578 Parameters: a = 112.03738 b = 163.61994 c = 40.63703

d = 1.50155

Date: Mon Oct 17 13:53:13 PDT 2022

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

Frame size: 12 pixels

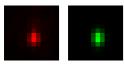
Coordinates: -46.2 um (x), -70.2 um (y), 44.0 um (z)

Corresponding bead: Not found

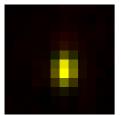
FWHM	Non corrected	Corrected	Theoretical
min	377 nm	392 nm	270 nm
max	537 nm	560 nm	270 nm
Z	2.13 um	2.14 um	1.3 um
Asymmetry	0.701		
Theta	87.9°		

### XY profile & fitting parameters :

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



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



A = 664.394 (brightness)

B = 123.393 (background)

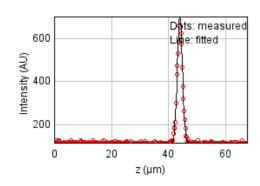
a = 0.946 px

b = 0.017 px

c = 0.466 px

xc = 6.082 pxyc = 6.625 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23452.0390

Standard deviation: 8.74019

R^2: 0.99038 Parameters:

a = 113.19648

b = 702.68314

c = 44.02574

Date: Mon Oct 17 13:53:14 PDT 2022

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

Frame size: 12 pixels

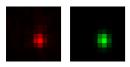
Coordinates: -35.0 um (x), -71.4 um (y), 44.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	398 nm	414 nm	270 nm
max	502 nm	523 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.792		
Theta	-83.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 593.066 (brightness)

B = 125.842 (background)

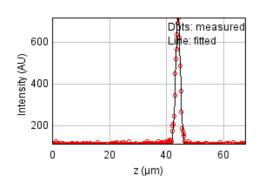
a = 0.844 px

b = -0.037 px

c = 0.537 px

xc = 6.795 pxyc = 6.890 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 30038.3439

Standard deviation: 9.89165

R^2: 0.98723 Parameters: a = 113.09168 b = 717.99434

c = 44.07551

## Bead 2275 (Rejected)

Date: Mon Oct 17 13:53:14 PDT 2022

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

Frame size: 12 pixels

Coordinates: -33.0 um (x), -73.0 um (y), 44.2 um (z)

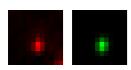
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

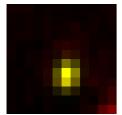
FWHM	Non corrected	Corrected	Theoretical
min	381 nm	397 nm	270 nm
max	506 nm	527 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.753		
Theta	81.8°		

### XY profile & fitting parameters :

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



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



A = 555.237 (brightness) B = 135.865 (background)

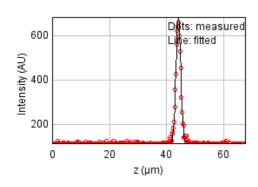
a = 0.916 px

b = 0.056 px

c = 0.533 px

xc = 6.110 pxyc = 7.257 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 19221.8677

Standard deviation: 7.91277

R^2: 0.99098 Parameters: a = 113.23727

a = 115.25727

b = 683.67062

c = 44.20527

## Bead 2276 (Rejected)

Date: Mon Oct 17 13:53:14 PDT 2022

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

Frame size: 12 pixels

Coordinates: -107 um (x), 95.8 um (y), 44.2 um (z)

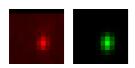
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

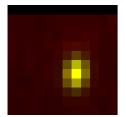
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	578 nm	602 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.691		
Theta	85.3°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.757$$



A = 468.143 (brightness)

B = 108.753 (background)

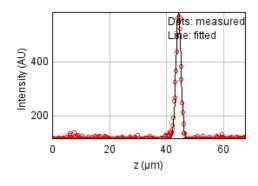
a = 0.839 px

b = 0.036 px

c = 0.405 px

xc = 6.985 pxyc = 6.910 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 23405.2394

Standard deviation: 8.73147

R^2: 0.98480 Parameters:

a = 113.67114

b = 586.99585

c = 44.24650

Date: Mon Oct 17 13:53:14 PDT 2022

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

Frame size: 12 pixels

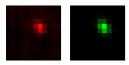
Coordinates: -148 um (x), 70.7 um (y), 23.4 um (z)

Corresponding bead: Not found

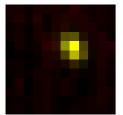
FWHM	Non corrected	Corrected	Theoretical
min	349 nm	363 nm	270 nm
max	475 nm	495 nm	270 nm
Z	2.13 um	2.14 um	1.3 um
Asymmetry	0.735		
Theta	-57.3°		

### XY profile & fitting parameters :

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



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



A = 228.526 (brightness)

B = 114.360 (background)

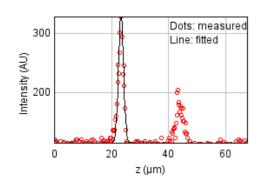
a = 0.954 px

b = -0.231 px

c = 0.744 px

xc = 6.847 pxyc = 4.222 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 76029.3267

Standard deviation: 15.73698

R^2: 0.80938 Parameters: a = 114.74281 b = 330.22140 c = 23.42528

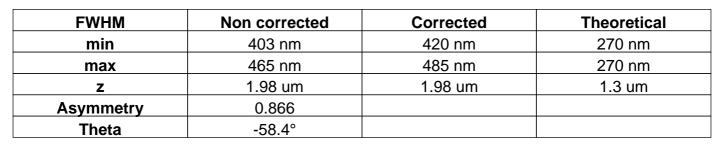
Date: Mon Oct 17 13:53:14 PDT 2022

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

Frame size: 12 pixels

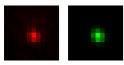
Coordinates: -114 um (x), 50.9 um (y), 44.7 um (z)

Corresponding bead: Not found

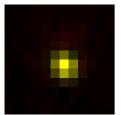


### XY profile & fitting parameters :

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



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



Parameters:

A = 571.925 (brightness)

B = 124.297 (background)

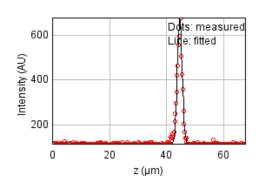
a = 0.769 px

b = -0.092 px

c = 0.676 px

xc = 6.052 pxyc = 6.177 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39183.9568

Standard deviation: 11.29757

R^2: 0.98148 Parameters: a = 112.43816

b = 679.17355

c = 44.69390

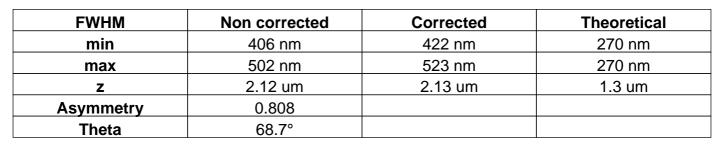
Date: Mon Oct 17 13:53:14 PDT 2022

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

Frame size: 12 pixels

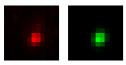
Coordinates: -78.9 um (x), 42.0 um (y), 44.4 um (z)

Corresponding bead: Not found

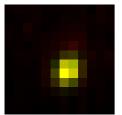


### XY profile & fitting parameters :

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



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



Parameters:

A = 621.103 (brightness)

B = 125.286(background)

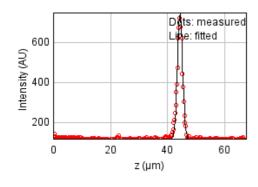
a = 0.778 px

b = 0.096 px

c = 0.570 px

xc = 6.383 pxyc = 6.711 px

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



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

Sum of residuals squared: 47743.2851

Standard deviation: 12.47059

R^2: 0.98303 Parameters: a = 115.19525

b = 747.55233

c = 44.42131

Date: Mon Oct 17 13:53:15 PDT 2022

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

Frame size: 12 pixels

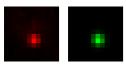
Coordinates: 48.9 um (x), 40.9 um (y), 44.4 um (z)

Corresponding bead: Not found

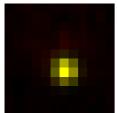
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	424 nm	270 nm
max	443 nm	461 nm	270 nm
Z	1.57 um	1.58 um	1.3 um
Asymmetry	0.92		
Theta	-75.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 550.010 (brightness)

B = 125.043 (background)

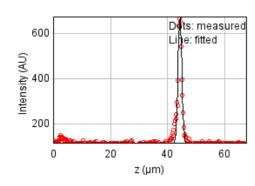
a = 0.801 px

b = -0.030 px

c = 0.693 px

xc = 6.118 pxyc = 6.776 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 71843.0545

Standard deviation: 15.29760

R^2: 0.95767 Parameters: a = 116.28164 b = 675.57184 c = 44.40921

Date: Mon Oct 17 13:53:15 PDT 2022

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

Frame size: 12 pixels

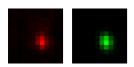
Coordinates: 105 um (x), 23.5 um (y), 44.4 um (z)

Corresponding bead: Not found

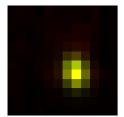
FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	557 nm	580 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.738		
Theta	-80.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 502.603 (brightness)

B = 122.701 (background)

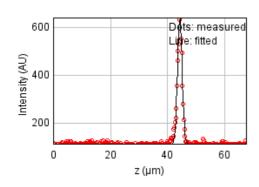
a = 0.785 px

b = -0.059 px

c = 0.442 px

xc = 6.910 pxyc = 6.775 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 28127.7657

Standard deviation: 9.57191

R^2: 0.98450 Parameters: a = 111.78491 b = 643.61949

c = 44.36794d = 0.81907

Date: Mon Oct 17 13:53:15 PDT 2022

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

Frame size: 12 pixels

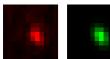
Coordinates: -132 um (x), -12.7 um (y), 43.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	659 nm	686 nm	270 nm
Z	2.2 um	2.21 um	1.3 um
Asymmetry	0.668		
Theta	-65.7°		

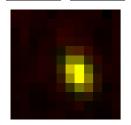
#### XY profile & fitting parameters :

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





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



Parameters:

A = 268.074 (brightness)

B = 114.383 (background)

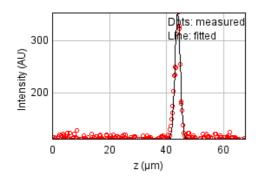
a = 0.628 px

b = -0.144 px

c = 0.374 px

xc = 6.815 pxyc = 6.398 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 23195.8155

Standard deviation: 8.69232

R^2: 0.94774 Parameters:

a = 111.25877

b = 353.48787

c = 43.93931

Date: Mon Oct 17 13:53:15 PDT 2022

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

Frame size: 12 pixels

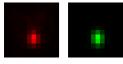
Coordinates: 59.6 um (x), -14.3 um (y), 44.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	393 nm	410 nm	270 nm
max	505 nm	526 nm	270 nm
Z	1.88 um	1.89 um	1.3 um
Asymmetry	0.779		
Theta	-88.1°		

### XY profile & fitting parameters :

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



$$R^2 = 0.971$$



Parameters:

A = 832.380 (brightness)

B = 130.226 (background)

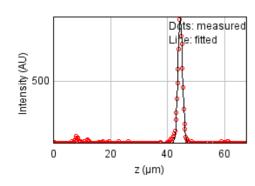
a = 0.867 px

b = -0.011 px

c = 0.526 px

xc = 5.990 pxyc = 7.357 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 42128.6092

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

Standard deviation: 11.71438

R^2: 0.98904 Parameters:

a = 116.12834

b = 901.84756

c = 44.51256

Date: Mon Oct 17 13:53:15 PDT 2022

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

Frame size: 12 pixels

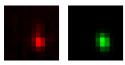
Coordinates: -135 um (x), -27.7 um (y), 44.0 um (z)

Corresponding bead: Not found

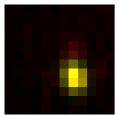
FWHM	Non corrected	Corrected	Theoretical
min	390 nm	407 nm	270 nm
max	534 nm	556 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.731		
Theta	-76.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 431.489 (brightness)

B = 119.952 (background)

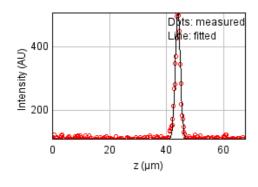
a = 0.857 px

b = -0.095 px

c = 0.494 px

xc = 7.155 pxyc = 7.428 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 21203.1047

Standard deviation: 8.31056

R^2: 0.98060 Parameters:

a = 111.03016

b = 504.67211

c = 44.02434

Date: Mon Oct 17 13:53:15 PDT 2022

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

Frame size: 12 pixels

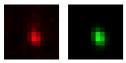
Coordinates: -146 um (x), -37.9 um (y), 44.1 um (z)

Corresponding bead : Not found

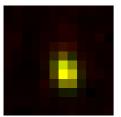
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	568 nm	592 nm	270 nm
Z	2.26 um	2.27 um	1.3 um
Asymmetry	0.702		
Theta	-74.9°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 415.183 (brightness)

B = 116.871 (background)

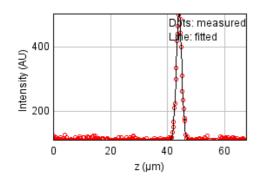
a = 0.814 px

b = -0.107 px

c = 0.445 px

xc = 6.285 pxyc = 6.729 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15206.7600

Standard deviation: 7.03800

R^2: 0.98678 Parameters: a = 111.36476 b = 504.85801

c = 44.09281

Date: Mon Oct 17 13:53:15 PDT 2022

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

Frame size: 12 pixels

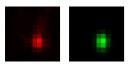
Coordinates: 101 um (x), -52.5 um (y), 44.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	389 nm	406 nm	270 nm
max	549 nm	572 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.709		
Theta	89.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 661.567 (brightness)

B = 125.498 (background)

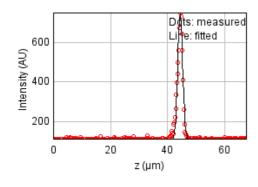
a = 0.885 px

b = 0.002 px

c = 0.445 px

xc = 6.691 pxyc = 7.210 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 57835.3301

Standard deviation: 13.72548

R^2: 0.97875 Parameters:

a = 112.41494

b = 749.45376

c = 44.50674

## Bead 2287 (Rejected)

Date: Mon Oct 17 13:53:16 PDT 2022

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

Frame size: 12 pixels

Coordinates: -133 um (x), -66.0 um (y), 41.0 um (z)

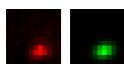
Corresponding bead: Not found

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

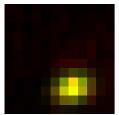
FWHM	Non corrected	Corrected	Theoretical
min	483 nm	503 nm	270 nm
max	644 nm	671 nm	270 nm
Z	2.86 um	2.87 um	1.3 um
Asymmetry	0.749		
Theta	16.9°		

### XY profile & fitting parameters :

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



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



A = 319.727 (brightness)

B = 120.401 (background)

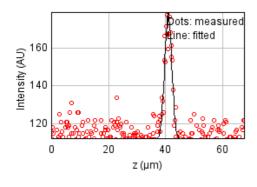
a = 0.345 px

b = 0.070 px

c = 0.555 px

xc = 6.954 pxyc = 8.658 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 12978.0200

Standard deviation: 6.50182

R^2: 0.76292

Parameters:

a = 111.89653

b = 179.42775

c = 41.00838

## Bead 2288 (Rejected)

Date: Mon Oct 17 13:53:16 PDT 2022

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

Frame size: 12 pixels

Coordinates: -7.85 um (x), 85.0 um (y), 40.6 um (z)

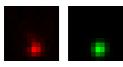
Corresponding bead: Not found

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

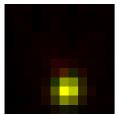
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	465 nm	270 nm
max	493 nm	513 nm	270 nm
Z	4.01 um	4.03 um	1.3 um
Asymmetry	0.907		
Theta	69.3°		

### XY profile & fitting parameters :

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



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



A = 698.545 (brightness) B = 131.340 (background)

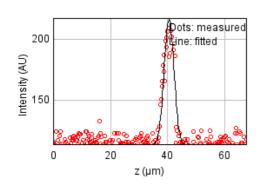
a = 0.658 px

b = 0.040 px

c = 0.568 px

xc = 6.327 pxyc = 8.914 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 21151.6319

Standard deviation: 8.30047

R^2: 0.86604

Parameters:

a = 113.19886

b = 217.79655

c = 40.59601

# Bead 2289 (Rejected)

Date: Mon Oct 17 13:53:16 PDT 2022

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

Frame size: 12 pixels

Coordinates: -74.8 um (x), 62.4 um (y), 41.6 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	3.32 um	3.33 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

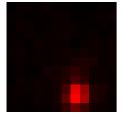
### XY profile & fitting parameters :

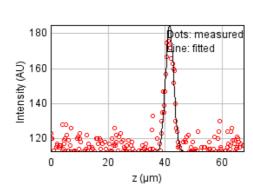
(red: the original data, green: the fit, yellow: the two merged)



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: 12379.4950

Standard deviation: 6.35013

R^2: 0.81586 Parameters: a = 112.47111 b = 184.67091

c = 41.62186

Date: Mon Oct 17 13:53:16 PDT 2022

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

Frame size: 12 pixels

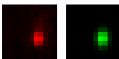
Coordinates: -138 um (x), 58.2 um (y), 44.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	574 nm	598 nm	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.705		
Theta	86.3°		

#### XY profile & fitting parameters :

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





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



Parameters:

A = 645.803 (brightness)

B = 124.576 (background)

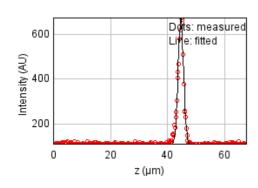
a = 0.816 px

b = 0.026 px

c = 0.408 px

xc = 7.436 pxyc = 6.890 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 44533.8508

Standard deviation: 12.04414

R^2: 0.98082 Parameters: a = 111.64931 b = 673.46589

c = 44.72432

Date: Mon Oct 17 13:53:16 PDT 2022

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

Frame size: 12 pixels

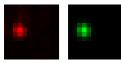
Coordinates: -51.9 um (x), 41.0 um (y), 35.0 um (z)

Corresponding bead: Not found

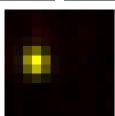
FWHM	Non corrected	Corrected	Theoretical
min	420 nm	438 nm	270 nm
max	480 nm	500 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.875		
Theta	-74.3°		

### XY profile & fitting parameters :

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



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



A = 530.683 (brightness)

B = 118.829 (background)

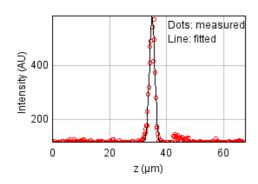
a = 0.746 px

b = -0.046 px

c = 0.594 px

xc = 2.909 pxyc = 5.206 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 58892.3221

Standard deviation: 13.85033

R^2: 0.96346 Parameters: a = 115.59528

b = 583.08485

c = 35.00507

Date: Mon Oct 17 13:53:16 PDT 2022

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

Frame size: 12 pixels

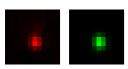
Coordinates: -65.7 um (x), 26.4 um (y), 44.5 um (z)

Corresponding bead: Not found

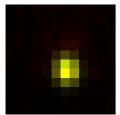
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	503 nm	524 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.815		
Theta	-85.2°		

### 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 = 691.732 (brightness)

B = 126.182 (background)

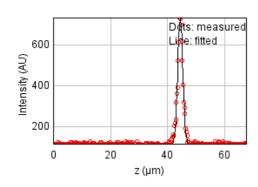
a = 0.798 px

b = -0.022 px

c = 0.532 px

xc = 6.182 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: 33566.4870

Standard deviation: 10.45644

R^2: 0.98756 Parameters: a = 114.00007 b = 736.28464 c = 44.53102

Date: Mon Oct 17 13:53:16 PDT 2022

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

Frame size: 12 pixels

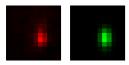
Coordinates: 127 um (x), 1.52 um (y), 44.2 um (z)

Corresponding bead: Not found

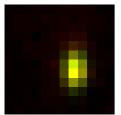
FWHM	Non corrected	Corrected	Theoretical
min	388 nm	404 nm	270 nm
max	644 nm	670 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.602		
Theta	89.8°		

#### 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 = 447.927 (brightness)

B = 117.324 (background)

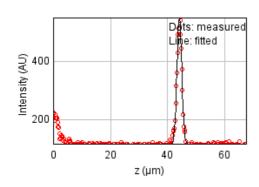
a = 0.893 px

b = 0.002 px

c = 0.324 px

xc = 7.178 pxyc = 6.605 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 106543.654

Standard deviation: 18.62922

R^2: 0.92096 Parameters: a = 116.11336 b = 551.06117 c = 44.20672

Date: Mon Oct 17 13:53:17 PDT 2022

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

Frame size: 12 pixels

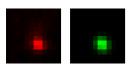
Coordinates: 64.4 um (x), -8.54 um (y), 45.1 um (z)

Corresponding bead: Not found

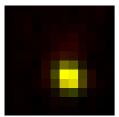
FWHM	Non corrected	Corrected	Theoretical
min	439 nm	458 nm	270 nm
max	505 nm	526 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.871		
Theta	-57.5°		

### XY profile & fitting parameters :

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



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



A = 822.192 (brightness)

B = 127.906 (background)

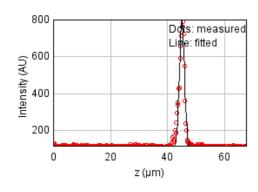
a = 0.647 px

b = -0.076 px

c = 0.576 px

xc = 6.508 pxyc = 7.324 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 108087.687

Standard deviation: 18.76372

R^2: 0.96664 Parameters:

a = 114.62967

b = 800.48612

c = 45.11213

Date: Mon Oct 17 13:53:17 PDT 2022

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

Frame size: 12 pixels

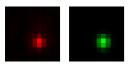
Coordinates: -90.9 um (x), -18.0 um (y), 44.7 um (z)

Corresponding bead: Not found

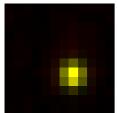
FWHM	Non corrected	Corrected	Theoretical
min	413 nm	430 nm	270 nm
max	462 nm	481 nm	270 nm
Z	1.91 um	1.92 um	1.3 um
Asymmetry	0.895		
Theta	89.8°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 564.011 (brightness)

B = 120.424 (background)

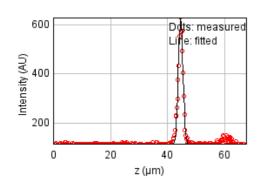
a = 0.785 px

b = 0.001 px

c = 0.629 px

xc = 6.965 pxyc = 7.287 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 36769.7016

Standard deviation: 10.94399

R^2: 0.97812 Parameters: a = 114.65132 b = 626.79569

c = 44.66018

Date: Mon Oct 17 13:53:17 PDT 2022

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

Frame size: 12 pixels

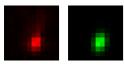
Coordinates: 100 um (x), -24.0 um (y), 44.6 um (z)

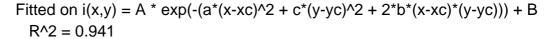
Corresponding bead: Not found

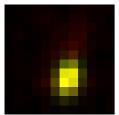
FWHM	Non corrected	Corrected	Theoretical
min	420 nm	437 nm	270 nm
max	619 nm	645 nm	270 nm
Z	2.56 um	2.57 um	1.3 um
Asymmetry	0.678		
Theta	77.1°		

#### XY profile & fitting parameters :

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







A = 570.772 (brightness)

B = 127.432 (background)

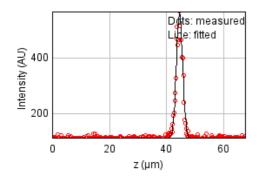
a = 0.741 px

b = 0.089 px

c = 0.371 px

xc = 6.445 pxyc = 7.540 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 43256.0090

Standard deviation: 11.87009

R^2: 0.97550 Parameters:

a = 112.24389

b = 568.76867

c = 44.59763

## Bead 2297 (Rejected)

Date: Mon Oct 17 13:53:17 PDT 2022

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

Frame size: 12 pixels

Coordinates: 139 um (x), -59.0 um (y), 44.0 um (z)

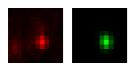
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

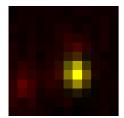
FWHM	Non corrected	Corrected	Theoretical
min	380 nm	395 nm	270 nm
max	511 nm	532 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.743		
Theta	-83.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 326.799 (brightness)

B = 126.273 (background)

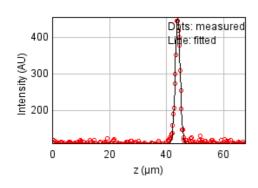
a = 0.927 px

b = -0.044 px

c = 0.519 px

xc = 6.902 pxyc = 6.879 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 14738.5945

Standard deviation: 6.92881

R^2: 0.98129 Parameters:

a = 110.46139

b = 453.58247

c = 43.96786

Date: Mon Oct 17 13:53:17 PDT 2022

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

Frame size: 12 pixels

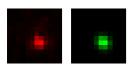
Coordinates: -121 um (x), -80.2 um (y), 44.7 um (z)

Corresponding bead: Not found

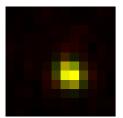
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	494 nm	515 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.873		
Theta	-50.4°		

#### XY profile & fitting parameters :

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



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



A = 465.289 (brightness)

B = 120.697 (background)

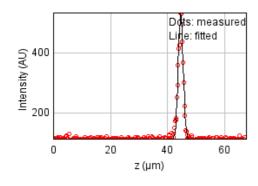
a = 0.651 px

b = -0.084 px

c = 0.619 px

xc = 6.529 pxyc = 6.906 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17467.1269

Standard deviation: 7.54296

R^2: 0.98543 Parameters: a = 112.38211 b = 535.27198

c = 44.67532

Date: Mon Oct 17 13:53:18 PDT 2022

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

Frame size: 12 pixels

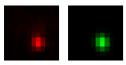
Coordinates: -19.2 um (x), 80.3 um (y), 45.1 um (z)

Corresponding bead: Not found

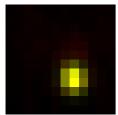
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	511 nm	532 nm	270 nm
Z	1.96 um	1.97 um	1.3 um
Asymmetry	0.825		
Theta	-81.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 786.773 (brightness)

B = 129.693 (background)

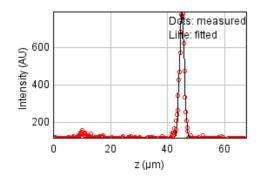
a = 0.750 px

b = -0.036 px

c = 0.519 px

xc = 6.909 pxyc = 7.574 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 53278.8061

Standard deviation: 13.17371

R^2: 0.98201 Parameters: a = 115.67548

b = 788.45441

c = 45.07626

# Bead 2300 (Rejected)

Date: Mon Oct 17 13:53:18 PDT 2022

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

Frame size: 12 pixels

Coordinates: 158 um (x), 72.8 um (y), 43.9 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	913 nm	951 nm	270 nm
max	1.44 um	1.5 um	270 nm
Z	1.54 um	1.55 um	1.3 um
Asymmetry	0.633		
Theta	-70.0°		

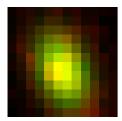
### XY profile & fitting parameters :

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





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



Parameters:

A = 164.262 (brightness)

B = 128.346 (background)

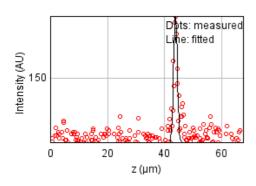
a = 0.150 px

b = -0.031 px

c = 0.076 px

xc = 5.530 pxyc = 6.408 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 14144.9957

Standard deviation: 6.78785

R^2: 0.69915 Parameters:

a = 109.19072

b = 189.51662

c = 43.87335