Date: Mon Oct 17 13:54:16 PDT 2022

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

Frame size: 12 pixels

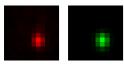
Coordinates: -3.3 um (x), 13.5 um (y), 59.0 um (z)

Corresponding bead: Not found

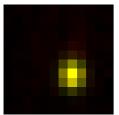
FWHM	Non corrected	Corrected	Theoretical
min	417 nm	434 nm	270 nm
max	523 nm	544 nm	270 nm
Z	1.98 um	1.98 um	1.3 um
Asymmetry	0.798		
Theta	-89.3°		

## XY profile & fitting parameters :

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



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



A = 580.639 (brightness)

B = 120.845 (background)

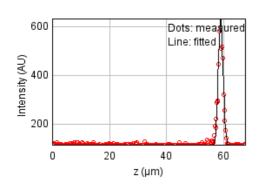
a = 0.772 px

b = -0.004 px

c = 0.491 px

xc = 7.001 pxyc = 7.190 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 71009.8842

Standard deviation: 15.20863

R^2: 0.96121 Parameters: a = 113.97597

b = 635.66679c = 59.02869

Date: Mon Oct 17 13:54:16 PDT 2022

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

Frame size: 12 pixels

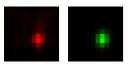
Coordinates: 54.8 um (x), 12.9 um (y), 58.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	396 nm	413 nm	270 nm
max	525 nm	546 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.755		
Theta	86.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 610.873 (brightness)

B = 125.483 (background)

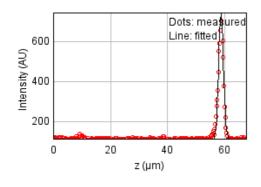
a = 0.853 px

b = 0.024 px

c = 0.489 px

xc = 7.010 pxyc = 6.678 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 50439.1856

Standard deviation: 12.81784

R^2: 0.98117 Parameters: a = 113.63722 b = 747.04148 c = 58.79436

## Bead 3403 (Rejected)

Date: Mon Oct 17 13:54:17 PDT 2022

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

Frame size: 12 pixels

Coordinates: -43.8 um (x), 10.9 um (y), 59.4 um (z)

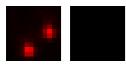
Corresponding bead: Not found

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

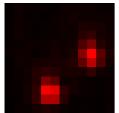
FWHM	Non corrected	Corrected	Theoretical
min	590 nm	615 nm	270 nm
max	3.25 um	3.38 um	270 nm
Z	1.9 um	1.91 um	1.3 um
Asymmetry	0.182		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.056$$



Parameters:

A = -66.486 (brightness) B = 218.641 (background)

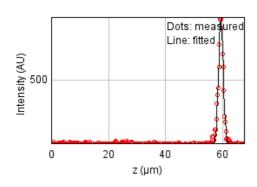
a = 0.223 px

b = -0.196 px

c = 0.150 px

xc = 5.684 pxyc = 5.811 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 42546.9243

Standard deviation: 11.77240

R^2: 0.98857 Parameters:

a = 114.42513

b = 883.37806

c = 59.44176

## Bead 3404 (Rejected)

Date: Mon Oct 17 13:54:17 PDT 2022

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

Frame size: 12 pixels

Coordinates: -41.4 um (x), 10.0 um (y), 60.2 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	1.84 um	1.85 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

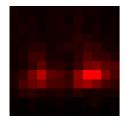
## XY profile & fitting parameters :

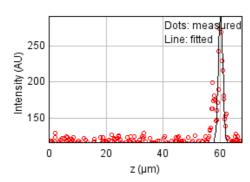
(red: the original data, green: the fit, yellow: the two merged)



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: 45879.0574

Standard deviation: 12.22470

R^2: 0.80540 Parameters: a = 115.46790 b = 292.89993 c = 60.17858

## Bead 3405 (Rejected)

Date: Mon Oct 17 13:54:17 PDT 2022

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

Frame size: 12 pixels

Coordinates: 25.0 um (x), 3.4 um (y), 59.1 um (z)

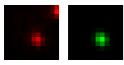
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

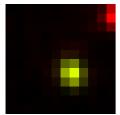
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	413 nm	270 nm
max	465 nm	485 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.852		
Theta	-69.9°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.467$$



A = 809.622 (brightness)

B = 153.101 (background)

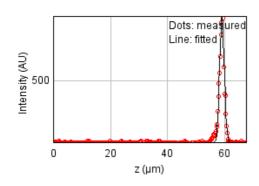
a = 0.825 px

b = -0.075 px

c = 0.647 px

xc = 6.743 pxyc = 7.032 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 75840.0409

Standard deviation: 15.71738

R^2: 0.98111 Parameters:

a = 114.58434

b = 903.63758

c = 59.11658

## Bead 3406 (Rejected)

Date: Mon Oct 17 13:54:17 PDT 2022

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

Frame size: 12 pixels

Coordinates: 94.2 um (x), 568 nm (y), 57.8 um (z)

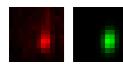
Corresponding bead: Not found

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

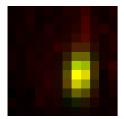
FWHM	Non corrected	Corrected	Theoretical
min	446 nm	465 nm	270 nm
max	763 nm	794 nm	270 nm
Z	2.6 um	2.61 um	1.3 um
Asymmetry	0.585		
Theta	85.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 239.712 (brightness)

B = 120.951 (background)

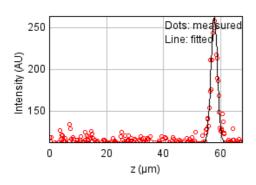
a = 0.671 px

b = 0.036 px

c = 0.234 px

xc = 7.378 pxyc = 6.916 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15091.4551

Standard deviation: 7.01126

R^2: 0.92714 Parameters:

a = 112.24199

b = 263.59681

c = 57.81256

d = 1.10436

Date: Mon Oct 17 13:54:17 PDT 2022

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

Frame size: 12 pixels

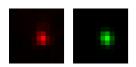
Coordinates: -15.9 um (x), -111 nm (y), 59.4 um (z)

Corresponding bead: Not found

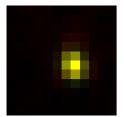
FWHM	Non corrected	Corrected	Theoretical
min	394 nm	410 nm	270 nm
max	496 nm	517 nm	270 nm
Z	1.91 um	1.91 um	1.3 um
Asymmetry	0.794		
Theta	-76.2°		

## XY profile & fitting parameters :

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



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



A = 731.034 (brightness)

B = 126.686 (background)

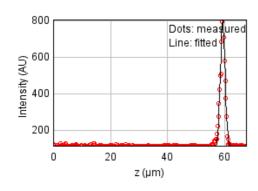
a = 0.846 px

b = -0.074 px

c = 0.563 px

xc = 6.818 pxyc = 6.006 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 42885.5128

Standard deviation: 11.81915

R^2: 0.98592 Parameters: a = 114.12993 b = 807.46227 c = 59.37377

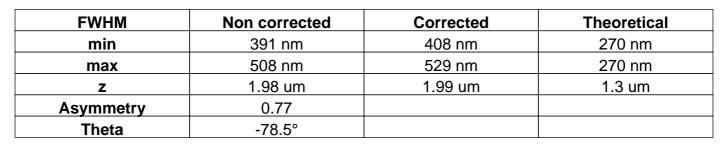
Date: Mon Oct 17 13:54:17 PDT 2022

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

Frame size: 12 pixels

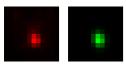
Coordinates: 4.01 um (x), -711 nm (y), 59.2 um (z)

Corresponding bead: Not found

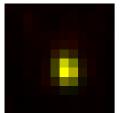


## XY profile & fitting parameters :

(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 = 758.471 (brightness)

B = 127.116 (background)

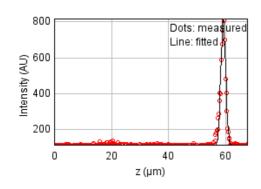
a = 0.862 px

b = -0.069 px

c = 0.534 px

xc = 6.250 pxyc = 6.731 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 68289.3846

Standard deviation: 14.91446

R^2: 0.97906 Parameters: a = 115.01203 b = 816.34519

c = 59.21798

Date: Mon Oct 17 13:54:17 PDT 2022

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

Frame size: 12 pixels

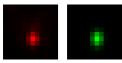
Coordinates: -12.7 um (x), -1.43 um (y), 59.3 um (z)

Corresponding bead: Not found

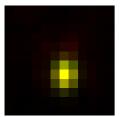
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	416 nm	270 nm
max	539 nm	561 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.741		
Theta	88.1°		

### XY profile & fitting parameters :

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



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



A = 813.495 (brightness)

B = 130.122 (background)

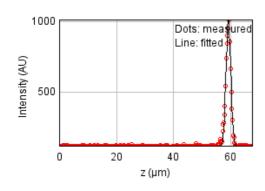
a = 0.840 px

b = 0.013 px

c = 0.462 px

xc = 6.094 pxyc = 6.990 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 51104.5292

Standard deviation: 12.90210

R^2: 0.99027 Parameters: a = 114.73619 b = 1017.17418 c = 59.26722

## Bead 3410 (Rejected)

Date: Mon Oct 17 13:54:18 PDT 2022

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

Frame size: 12 pixels

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

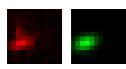
Corresponding bead: Not found

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

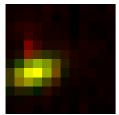
FWHM	Non corrected	Corrected	Theoretical
min	496 nm	517 nm	270 nm
max	837 nm	872 nm	270 nm
Z	3.85 um	3.86 um	1.3 um
Asymmetry	0.592		
Theta	18.1°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.854$ 



Parameters:

A = 252.555 (brightness) B = 120.564 (background)

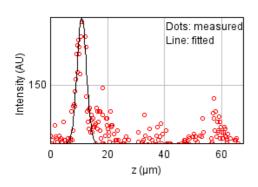
a = 0.226 px

b = 0.105 px

c = 0.511 px

xc = 2.692 pxyc = 6.908 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20807.5398

Standard deviation: 8.23268

R^2: 0.76194 Parameters:

a = 115.88913

b = 190.28846

c = 11.08007

d = 1.63285

## Bead 3411 (Rejected)

Date: Mon Oct 17 13:54:18 PDT 2022

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

Frame size: 12 pixels

Coordinates: -27.0 um (x), -7.41 um (y), 57.9 um (z)

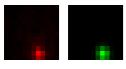
Corresponding bead: Not found

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

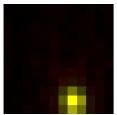
FWHM	Non corrected	Corrected	Theoretical
min	415 nm	432 nm	270 nm
max	482 nm	502 nm	270 nm
Z	3.44 um	3.45 um	1.3 um
Asymmetry	0.861		
Theta	-78.9°		

## 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 = 595.323 (brightness)

B = 125.819 (background)

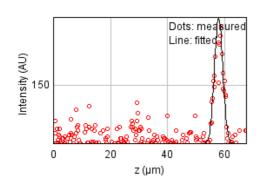
a = 0.772 px

b = -0.038 px

c = 0.586 px

xc = 7.150 pxyc = 10.159 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17881.5281

Standard deviation: 7.63191

R^2: 0.79190 Parameters: a = 113.38638

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b = 192.55318

c = 57.94983

d = 1.45896

Date: Mon Oct 17 13:54:18 PDT 2022

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

Frame size: 12 pixels

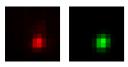
Coordinates: -12.2 um (x), -11.0 um (y), 59.6 um (z)

Corresponding bead: Not found

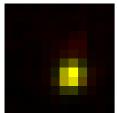
FWHM	Non corrected	Corrected	Theoretical
min	426 nm	443 nm	270 nm
max	497 nm	517 nm	270 nm
Z	1.9 um	1.91 um	1.3 um
Asymmetry	0.857		
Theta	69.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 739.594 (brightness)

B = 125.880 (background)

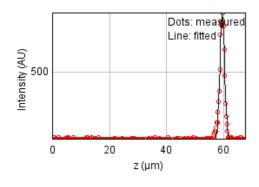
a = 0.716 px

b = 0.065 px

c = 0.569 px

xc = 6.763 pxyc = 7.377 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 44478.9144

Standard deviation: 12.03671

R^2: 0.98675 Parameters: a = 114.26610

u = 114.20010

b = 843.90973

c = 59.55967

Date: Mon Oct 17 13:54:18 PDT 2022

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

Frame size: 12 pixels

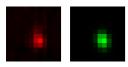
Coordinates: 152 um (x), -11.1 um (y), 58.8 um (z)

Corresponding bead: Not found

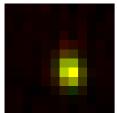
FWHM	Non corrected	Corrected	Theoretical
min	421 nm	439 nm	270 nm
max	566 nm	589 nm	270 nm
Z	1.78 um	1.78 um	1.3 um
Asymmetry	0.745		
Theta	-77.2°		

### XY profile & fitting parameters :

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



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



A = 391.572 (brightness)

B = 117.372 (background)

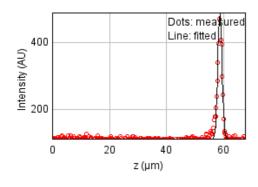
a = 0.740 px

b = -0.073 px

c = 0.436 px

xc = 6.628 pxyc = 6.903 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22518.4716

Standard deviation: 8.56447

R^2: 0.97400 Parameters:

a = 110.03536

b = 490.25442

c = 58.75290

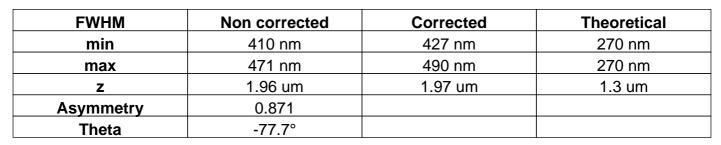
Date: Mon Oct 17 13:54:18 PDT 2022

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

Frame size: 12 pixels

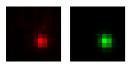
Coordinates: 13.7 um (x), -11.4 um (y), 59.3 um (z)

Corresponding bead: Not found



## XY profile & fitting parameters :

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



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



A = 753.749 (brightness)

B = 127.250 (background)

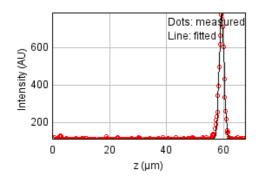
a = 0.790 px

b = -0.040 px

c = 0.614 px

xc = 7.282 pxyc = 7.149 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 34337.8621

Standard deviation: 10.57590

R^2: 0.98836 Parameters: a = 114.00926 b = 787.59759 c = 59.34540

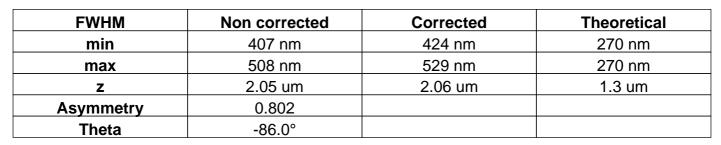
Date: Mon Oct 17 13:54:18 PDT 2022

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

Frame size: 12 pixels

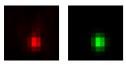
Coordinates: 9.74 um (x), -11.5 um (y), 59.4 um (z)

Corresponding bead: Not found

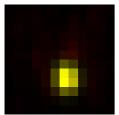


## XY profile & fitting parameters :

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



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



A = 822.379 (brightness)

B = 129.089 (background)

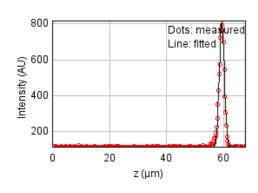
a = 0.807 px

b = -0.020 px

c = 0.521 px

xc = 6.278 pxyc = 7.554 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 41179.1408

Standard deviation: 11.58162

R^2: 0.98765 Parameters: a = 114.43870 b = 815.50157

c = 59.41878

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Date: Mon Oct 17 13:54:18 PDT 2022

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

Frame size: 12 pixels

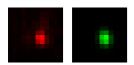
Coordinates: 68.8 um (x), -15.1 um (y), 59.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	419 nm	270 nm
max	522 nm	544 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.77		
Theta	-82.2°		

### XY profile & fitting parameters :

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



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



A = 537.252 (brightness)

B = 123.824 (background)

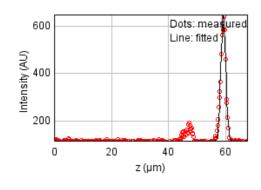
a = 0.823 px

b = -0.045 px

c = 0.498 px

xc = 6.676 pxyc = 6.234 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 81092.7889

Standard deviation: 16.25257

R^2: 0.95830 Parameters:

a = 115.24896

b = 646.87227

c = 59.22788

Date: Mon Oct 17 13:54:19 PDT 2022

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

Frame size: 12 pixels

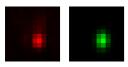
Coordinates: 81.6 um (x), -16.1 um (y), 59.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	412 nm	429 nm	270 nm
max	577 nm	601 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.714		
Theta	87.7°		

## XY profile & fitting parameters :

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



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



A = 615.650 (brightness)

B = 126.903 (background)

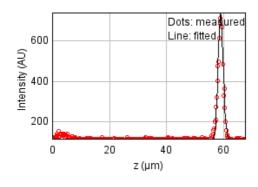
a = 0.790 px

b = 0.016 px

c = 0.403 px

xc = 6.759 pxyc = 6.903 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 60101.4731

Standard deviation: 13.99179

R^2: 0.97811 Parameters: a = 114.99636 b = 741.36125

c = 59.01894

Date: Mon Oct 17 13:54:19 PDT 2022

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

Frame size: 12 pixels

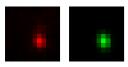
Coordinates: 14.3 um (x), -16.0 um (y), 59.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	390 nm	407 nm	270 nm
max	534 nm	557 nm	270 nm
Z	2.01 um	2.01 um	1.3 um
Asymmetry	0.73		
Theta	-78.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 713.742 (brightness)

B = 125.751 (background)

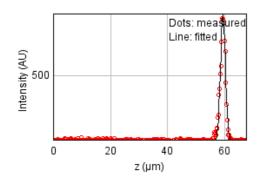
a = 0.865 px

b = -0.079 px

c = 0.486 px

xc = 7.105 pxyc = 7.079 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 53836.9036

Standard deviation: 13.24253

R^2: 0.98590 Parameters: a = 113.74671 b = 871.39224

c = 59.46468

Date: Mon Oct 17 13:54:19 PDT 2022

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

Frame size: 12 pixels

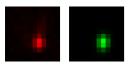
Coordinates: 73.7 um (x), -16.3 um (y), 59.2 um (z)

Corresponding bead: Not found

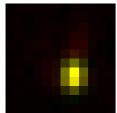
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	529 nm	551 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.735		
Theta	87.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 544.400 (brightness)

B = 125.123 (background)

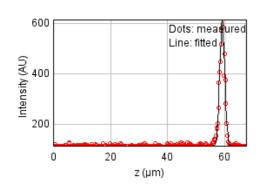
a = 0.886 px

b = 0.021 px

c = 0.481 px

xc = 6.930 pxyc = 7.371 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 38378.0705

Standard deviation: 11.18079

R^2: 0.97797 Parameters: a = 112.35499 b = 614.61265

c = 59.20697

Date: Mon Oct 17 13:54:19 PDT 2022

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

Frame size: 12 pixels

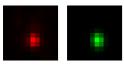
Coordinates: 22.9 um (x), -19.3 um (y), 59.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	517 nm	539 nm	270 nm
Z	1.92 um	1.92 um	1.3 um
Asymmetry	0.772		
Theta	-86.3°		

### XY profile & fitting parameters :

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



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



A = 872.288 (brightness)

B = 131.608 (background)

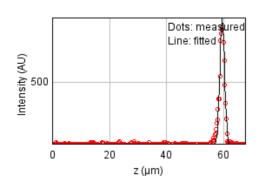
a = 0.840 px

b = -0.022 px

c = 0.503 px

xc = 6.237 pxyc = 7.153 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 70587.8240

Standard deviation: 15.16337

R^2: 0.98240 Parameters: a = 114.43841 b = 906.79772

c = 59.53285

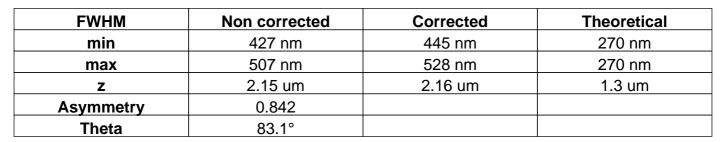
Date: Mon Oct 17 13:54:19 PDT 2022

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

Frame size: 12 pixels

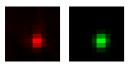
Coordinates: 76.0 um (x), -22.6 um (y), 59.4 um (z)

Corresponding bead: Not found

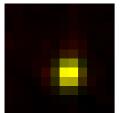


## XY profile & fitting parameters :

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



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



A = 711.960 (brightness)

B = 132.963 (background)

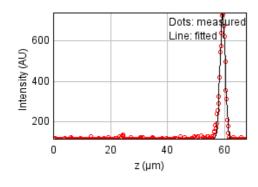
a = 0.733 px

b = 0.026 px

c = 0.524 px

xc = 6.525 pxyc = 7.121 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 40311.8996

Standard deviation: 11.45902

R^2: 0.98556 Parameters:

a = 113.86811

b = 740.31896

c = 59.35127

Date: Mon Oct 17 13:54:19 PDT 2022

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

Frame size: 12 pixels

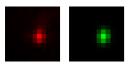
Coordinates: 73.9 um (x), -23.0 um (y), 59.3 um (z)

Corresponding bead: Not found

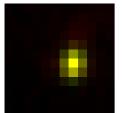
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	524 nm	545 nm	270 nm
Z	2.05 um	2.05 um	1.3 um
Asymmetry	0.743		
Theta	82.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 660.468 (brightness)

B = 128.083 (background)

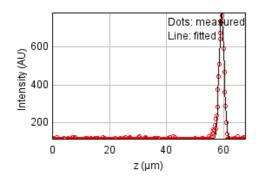
a = 0.880 px

b = 0.051 px

c = 0.496 px

xc = 7.029 pxyc = 6.056 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 39720.3450

Standard deviation: 11.37463

R^2: 0.98691 Parameters: a = 113.13260 b = 782.49491 c = 59.32794

## Bead 3423 (Rejected)

Date: Mon Oct 17 13:54:19 PDT 2022

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

Frame size: 12 pixels

Coordinates: 8.02 um (x), 53.1 nm (y), 59.6 um (z)

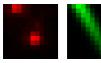
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	500 nm	521 nm	270 nm
max	17.8 um	18.6 um	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.028		
Theta	-59.5°		

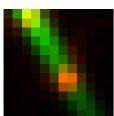
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.397$$



#### Parameters:

A = 90362.895 (brightness)

B = 127.121 (background)

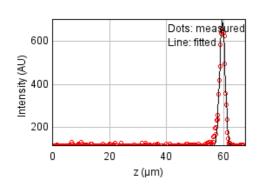
a = 0.398 px

b = -0.235 px

c = 0.139 px

xc = -56.542 pxyc = -99.741 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 45679.8242

Standard deviation: 12.19812

R^2: 0.98198

Parameters:

a = 115.00086

b = 702.61750

c = 59.58763

Date: Mon Oct 17 13:54:20 PDT 2022

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

Frame size: 12 pixels

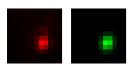
Coordinates: 63.4 um (x), -23.0 um (y), 59.4 um (z)

Corresponding bead: Not found

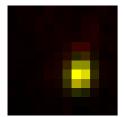
FWHM	Non corrected	Corrected	Theoretical
min	419 nm	437 nm	270 nm
max	534 nm	556 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.786		
Theta	77.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 582.965 (brightness)

B = 125.263 (background)

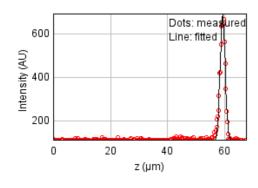
a = 0.750 px

b = 0.061 px

c = 0.484 px

xc = 7.396 pxyc = 7.019 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 37667.7467

Standard deviation: 11.07683

R^2: 0.98362 Parameters: a = 112.13405 b = 691.42538 c = 59.36427

## Bead 3425 (Rejected)

Date: Mon Oct 17 13:54:20 PDT 2022

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

Frame size: 12 pixels

Coordinates: 84.9 um (x), -22.8 um (y), 59.6 um (z)

Corresponding bead: Not found

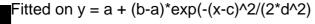
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.81 um	3.83 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

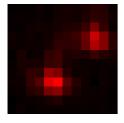
### XY profile & fitting parameters :

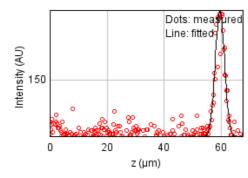
(red: the original data, green: the fit, yellow: the two merged)





## Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 15165.6917

Standard deviation: 7.02849

R^2: 0.85179 Parameters: a = 111.72855 b = 197.15012 c = 59.57974

d = 1.61990

Date: Mon Oct 17 13:54:20 PDT 2022

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

Frame size: 12 pixels

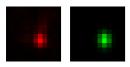
Coordinates: 89.1 um (x), -24.7 um (y), 59.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	535 nm	557 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.767		
Theta	-89.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 601.780 (brightness)

B = 126.347 (background)

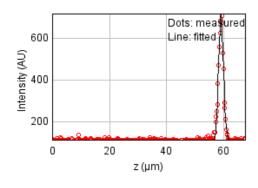
a = 0.797 px

b = -0.002 px

c = 0.469 px

xc = 7.018 pxyc = 6.777 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25740.7131

Standard deviation: 9.15674

R^2: 0.98921 Parameters: a = 113.47793

b = 717.27944

c = 59.14121

Date: Mon Oct 17 13:54:20 PDT 2022

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

Frame size: 12 pixels

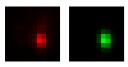
Coordinates: 50.7 um (x), -26.0 um (y), 59.4 um (z)

Corresponding bead: Not found

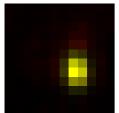
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	551 nm	574 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.706		
Theta	-85.6°		

## XY profile & fitting parameters :

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



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



A = 694.031 (brightness)

B = 129.358 (background)

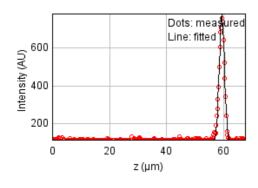
a = 0.885 px

b = -0.034 px

c = 0.445 px

xc = 7.353 pxyc = 6.824 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29431.1954

Standard deviation: 9.79117

R^2: 0.99039 Parameters:

a = 114.26405

b = 781.07946

c = 59.42416

Date: Mon Oct 17 13:54:20 PDT 2022

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

Frame size: 12 pixels

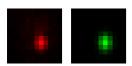
Coordinates: 153 um (x), -26.5 um (y), 59.0 um (z)

Corresponding bead: Not found

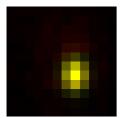
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	582 nm	606 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.741		
Theta	-89.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 501.488 (brightness)

B = 119.844 (background)

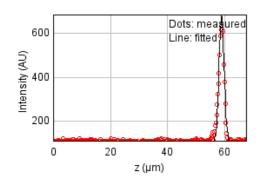
a = 0.723 px

b = -0.001 px

c = 0.397 px

xc = 6.940 pxyc = 6.934 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 50219.0036

Standard deviation: 12.78983

R^2: 0.97809 Parameters: a = 110.43729 b = 683.29025 c = 58.98505

Date: Mon Oct 17 13:54:20 PDT 2022

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

Frame size: 12 pixels

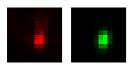
Coordinates: 76.5 um (x), -32.4 um (y), 59.3 um (z)

Corresponding bead: Not found

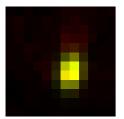
FWHM	Non corrected	Corrected	Theoretical
min	393 nm	410 nm	270 nm
max	597 nm	622 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.659		
Theta	80.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 610.002 (brightness)

B = 128.047 (background)

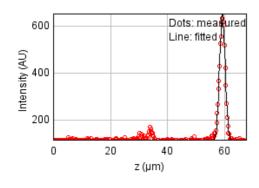
a = 0.855 px

b = 0.079 px

c = 0.390 px

xc = 6.604 pxyc = 6.589 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 37103.1614

Standard deviation: 10.99351

R^2: 0.98325 Parameters: a = 115.21936 b = 654.59368

c = 59.25392

Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

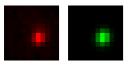
Coordinates: -105 um (x), -88.4 um (y), 58.9 um (z)

Corresponding bead: Not found

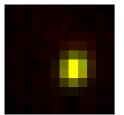
FWHM	Non corrected	Corrected	Theoretical
min	465 nm	484 nm	270 nm
max	549 nm	571 nm	270 nm
Z	2.38 um	2.39 um	1.3 um
Asymmetry	0.847		
Theta	73.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 355.849 (brightness)

B = 119.674 (background)

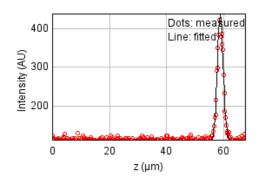
a = 0.607 px

b = 0.047 px

c = 0.459 px

xc = 7.124 pxyc = 6.514 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16253.3541

Standard deviation: 7.27616

R^2: 0.98090 Parameters:

a = 111.42660

b = 440.20966

c = 58.86850

d = 1.01215

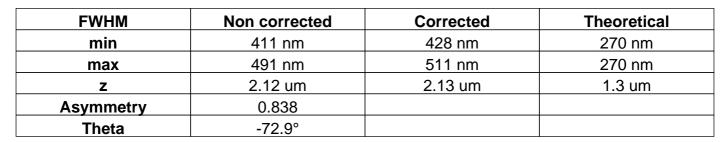
Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

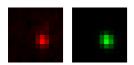
Coordinates: -141 um (x), 66.2 um (y), 59.0 um (z)

Corresponding bead: Not found

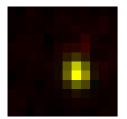


### XY profile & fitting parameters :

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



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



Parameters:

A = 349.894 (brightness)

B = 117.285 (background)

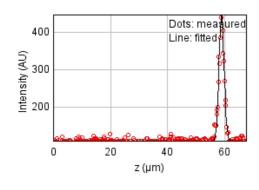
a = 0.773 px

b = -0.066 px

c = 0.578 px

xc = 7.088 pxyc = 6.720 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 20577.1320

Standard deviation: 8.18697

R^2: 0.97422 Parameters: a = 110.92965

u = 110.52505

b = 446.13471

c = 58.97440

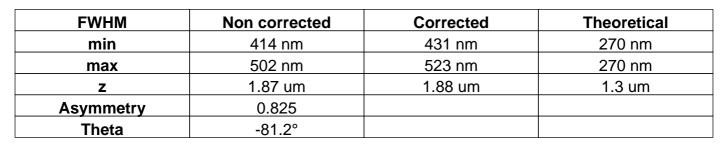
Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

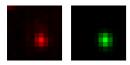
Coordinates: -134 um (x), 56.0 um (y), 59.3 um (z)

Corresponding bead: Not found

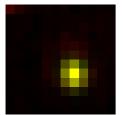


## XY profile & fitting parameters :

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



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



Parameters:

A = 510.198 (brightness)

B = 124.667 (background)

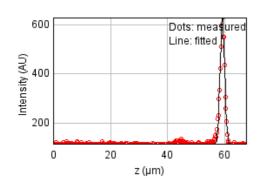
a = 0.776 px

b = -0.038 px

c = 0.539 px

xc = 6.939 pxyc = 7.100 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23530.6945

Standard deviation: 8.75484

R^2: 0.98588 Parameters: a = 113.50369 b = 631.37541

c = 59.26198

## Bead 3433 (Rejected)

Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

Coordinates: -132 um (x), 55.3 um (y), 58.3 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	436 nm	454 nm	270 nm
max	614 nm	640 nm	270 nm
Z	3.15 um	3.16 um	1.3 um
Asymmetry	0.709		
Theta	-78.0°		

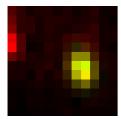
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.547$$



Parameters:

A = 237.647 (brightness)

B = 131.755 (background)

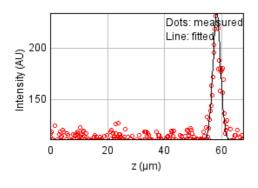
a = 0.692 px

b = -0.072 px

c = 0.371 px

xc = 7.637 pxyc = 6.302 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 18946.8666

Standard deviation: 7.85596

R^2: 0.88808 Parameters:

a = 111.33308

b = 233.87809

c = 58.33953

d = 1.33602

## Bead 3434 (Rejected)

Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

Coordinates: -155 um (x), 53.5 um (y), 56.2 um (z)

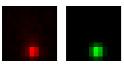
Corresponding bead: Not found

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

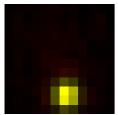
FWHM	Non corrected	Corrected	Theoretical
min	427 nm	445 nm	270 nm
max	461 nm	480 nm	270 nm
Z	3.46 um	3.47 um	1.3 um
Asymmetry	0.926		
Theta	86.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 628.994 (brightness) B = 124.332 (background)

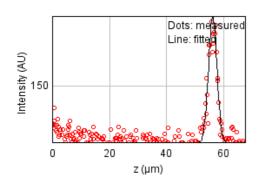
a = 0.736 px

b = 0.006 px

c = 0.632 px

xc = 6.247 pxyc = 9.435 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15490.1810

Standard deviation: 7.10328

R^2: 0.84590 Parameters:

a = 110.47799

b = 198.73546

c = 56.23247

d = 1.46758

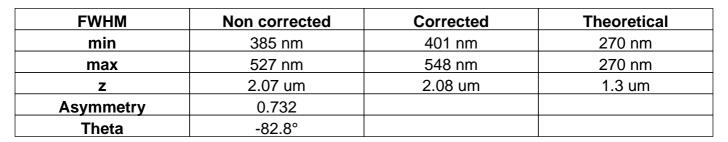
Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

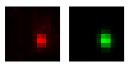
Coordinates: -124 um (x), 53.8 um (y), 58.9 um (z)

Corresponding bead: Not found



### XY profile & fitting parameters :

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



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



A = 511.644 (brightness)

B = 122.070 (background)

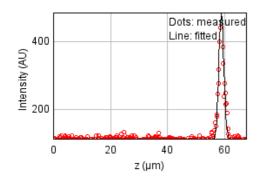
a = 0.897 px

b = -0.052 px

c = 0.491 px

xc = 7.427 pxyc = 6.907 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 42969.3775

Standard deviation: 11.83070

R^2: 0.95609 Parameters: a = 113.63658 b = 485.80099

c = 58.90175

Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

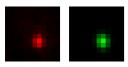
Coordinates: -108 um (x), 46.1 um (y), 59.4 um (z)

Corresponding bead: Not found

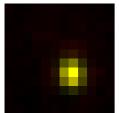
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	424 nm	270 nm
max	496 nm	517 nm	270 nm
Z	1.67 um	1.67 um	1.3 um
Asymmetry	0.82		
Theta	-82.4°		

### XY profile & fitting parameters :

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



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



A = 534.861 (brightness)

B = 122.014 (background)

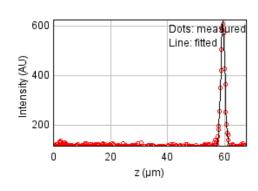
a = 0.806 px

b = -0.035 px

c = 0.550 px

xc = 6.831 pxyc = 7.156 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20402.4824

Standard deviation: 8.15215

R^2: 0.98602 Parameters:

a = 113.83378

b = 625.64253

c = 59.42665

# Bead 3437 (Rejected)

Date: Mon Oct 17 13:54:21 PDT 2022

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

Frame size: 12 pixels

Coordinates: -117 um (x), 38.3 um (y), 59.2 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	481 nm	501 nm	270 nm
max	1.18 um	1.23 um	270 nm
Z	2.29 um	2.3 um	1.3 um
Asymmetry	0.409		
Theta	-42.5°		

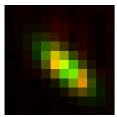
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.767$$



Parameters:

A = 420.866 (brightness)

B = 123.548 (background)

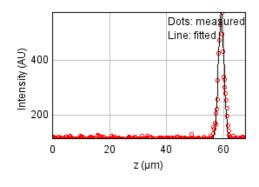
a = 0.317 px

b = -0.240 px

c = 0.359 px

xc = 6.160 pxyc = 6.296 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 42193.1724

Standard deviation: 11.72335

R^2: 0.97390 Parameters:

a = 113.16866

b = 573.34241

c = 59.17683

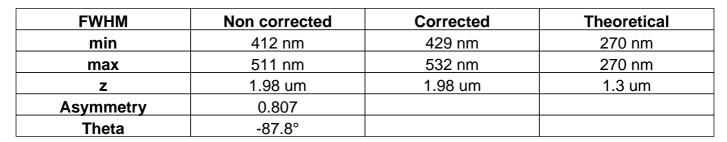
Date: Mon Oct 17 13:54:22 PDT 2022

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

Frame size: 12 pixels

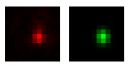
Coordinates: -127 um (x), 32.9 um (y), 59.5 um (z)

Corresponding bead: Not found

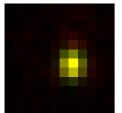


### XY profile & fitting parameters :

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



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



Parameters:

A = 486.583 (brightness)

B = 121.221 (background)

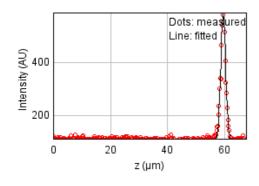
a = 0.790 px

b = -0.010 px

c = 0.515 px

xc = 6.871 pxyc = 6.166 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 27597.1307

Standard deviation: 9.48119

R^2: 0.98142 Parameters: a = 112.56235 b = 587.49980

c = 59.54535

Date: Mon Oct 17 13:54:22 PDT 2022

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

Frame size: 12 pixels

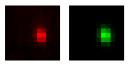
Coordinates: -96.3 um (x), 32.7 um (y), 59.2 um (z)

Corresponding bead: Not found

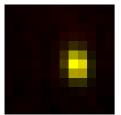
FWHM	Non corrected	Corrected	Theoretical
min	396 nm	412 nm	270 nm
max	548 nm	571 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.722		
Theta	-80.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 624.086 (brightness)

B = 120.540 (background)

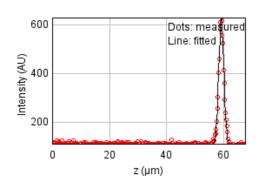
a = 0.845 px

b = -0.067 px

c = 0.457 px

xc = 7.401 pxyc = 6.050 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 17398.2751

Standard deviation: 7.52807

R^2: 0.99050 Parameters: a = 112.07719 b = 630.02533

c = 59.23476

# Bead 3440 (Rejected)

Date: Mon Oct 17 13:54:22 PDT 2022

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

Frame size: 12 pixels

Coordinates: -63.2 um (x), 30.9 um (y), 51.5 um (z)

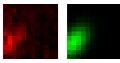
Corresponding bead: Not found

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

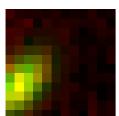
FWHM	Non corrected	Corrected	Theoretical
min	757 nm	789 nm	270 nm
max	1.28 um	1.34 um	270 nm
Z	1.06 um	1.06 um	1.3 um
Asymmetry	0.59		
Theta	50.2°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.827$$



Parameters:

A = 76.522 (brightness)

B = 115.161 (background)

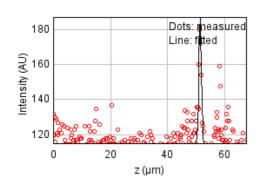
a = 0.171 px

b = 0.075 px

c = 0.144 px

xc = 0.952 pxyc = 7.865 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19355.8044

Standard deviation: 7.94029

R^2: 0.48486 Parameters:

a = 114.86990

b = 186.74381

c = 51.46219

Date: Mon Oct 17 13:54:22 PDT 2022

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

Frame size: 12 pixels

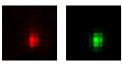
Coordinates: -91.9 um (x), 30.7 um (y), 59.3 um (z)

Corresponding bead: Not found

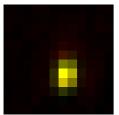
FWHM	Non corrected	Corrected	Theoretical
min	357 nm	372 nm	270 nm
max	515 nm	537 nm	270 nm
Z	1.91 um	1.91 um	1.3 um
Asymmetry	0.693		
Theta	82.2°		

### XY profile & fitting parameters :

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



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



A = 571.398 (brightness)

B = 124.573 (background)

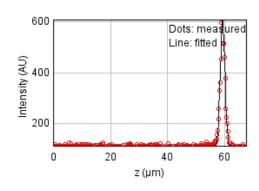
a = 1.042 px

b = 0.073 px

c = 0.515 px

xc = 6.308 pxyc = 7.180 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26373.0086

Standard deviation: 9.26853

R^2: 0.98299 Parameters:

a = 113.05971

b = 606.89948

c = 59.33943

Date: Mon Oct 17 13:54:22 PDT 2022

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

Frame size: 12 pixels

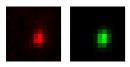
Coordinates: -132 um (x), 29.7 um (y), 59.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	578 nm	602 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.701		
Theta	80.3°		

### XY profile & fitting parameters :

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



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



A = 397.039(brightness)

B = 115.287(background)

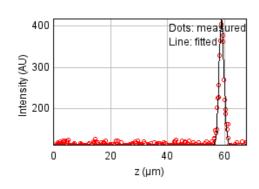
a = 0.807 px

b = 0.069 px

c = 0.414 px

xc = 6.720 pxyc = 6.477 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19474.5211

Standard deviation: 7.96460

R^2: 0.96989 Parameters: a = 111.45359

b = 417.53107

c = 58.97700

Date: Mon Oct 17 13:54:22 PDT 2022

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

Frame size: 12 pixels

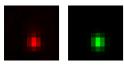
Coordinates: -65.1 um (x), 29.9 um (y), 59.3 um (z)

Corresponding bead: Not found

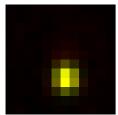
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	484 nm	504 nm	270 nm
Z	1.77 um	1.78 um	1.3 um
Asymmetry	0.854		
Theta	-85.1°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 758.413 (brightness)

B = 125.269 (background)

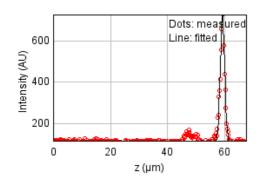
a = 0.783 px

b = -0.018 px

c = 0.574 px

xc = 6.103 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: 58817.9883

Standard deviation: 13.84159

R^2: 0.97376 Parameters: a = 117.54381 b = 729.72534

c = 59.29404

Date: Mon Oct 17 13:54:23 PDT 2022

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

Frame size: 12 pixels

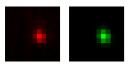
Coordinates: -91.7 um (x), 25.2 um (y), 59.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	386 nm	402 nm	270 nm
max	485 nm	505 nm	270 nm
Z	1.71 um	1.72 um	1.3 um
Asymmetry	0.796		
Theta	-73.1°		

## XY profile & fitting parameters :

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



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



A = 731.918 (brightness)

B = 124.773 (background)

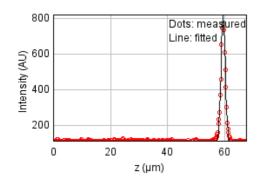
a = 0.873 px

b = -0.092 px

c = 0.598 px

xc = 7.127 pxyc = 6.040 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26685.0781

Standard deviation: 9.32320

R^2: 0.99073 Parameters:

a = 113.87251

b = 824.92761

c = 59.51815

Date: Mon Oct 17 13:54:23 PDT 2022

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

Frame size: 12 pixels

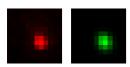
Coordinates: -68.0 um (x), 24.6 um (y), 59.5 um (z)

Corresponding bead: Not found

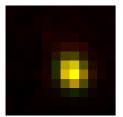
FWHM	Non corrected	Corrected	Theoretical
min	479 nm	499 nm	270 nm
max	578 nm	602 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.829		
Theta	-68.5°		

## 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 = 703.917 (brightness)

B = 126.189 (background)

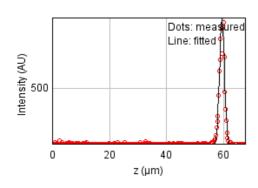
a = 0.561 px

b = -0.063 px

c = 0.427 px

xc = 6.767 pxyc = 6.778 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 144862.401

Standard deviation: 21.72244

R^2: 0.97197 Parameters: a = 113.91831 b = 988.70318 c = 59.48058 d = 0.85272

Date: Mon Oct 17 13:54:23 PDT 2022

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

Frame size: 12 pixels

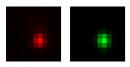
Coordinates: -83.9 um (x), 21.2 um (y), 59.6 um (z)

Corresponding bead: Not found

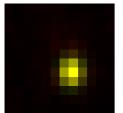
FWHM	Non corrected	Corrected	Theoretical
min	415 nm	432 nm	270 nm
max	520 nm	542 nm	270 nm
Z	1.76 um	1.77 um	1.3 um
Asymmetry	0.798		
Theta	-88.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 739.826 (brightness)

B = 125.880 (background)

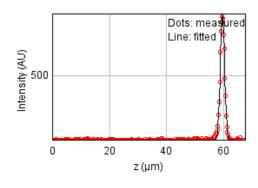
a = 0.778 px

b = -0.006 px

c = 0.496 px

xc = 6.798 pxyc = 6.941 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19188.6915

Standard deviation: 7.90594

R^2: 0.99417 Parameters: a = 114.03287 b = 865.64445

c = 59.63120

# Bead 3447 (Rejected)

Date: Mon Oct 17 13:54:23 PDT 2022

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

Frame size: 12 pixels

Coordinates: -124 um (x), 19.3 um (y), 56.5 um (z)

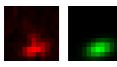
Corresponding bead: Not found

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

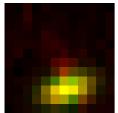
FWHM	Non corrected	Corrected	Theoretical
min	549 nm	572 nm	270 nm
max	932 nm	971 nm	270 nm
Z	3.28 um	3.29 um	1.3 um
Asymmetry	0.589		
Theta	16.7°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.872$$



Parameters:

A = 183.763 (brightness) B = 119.972 (background)

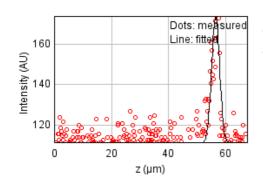
a = 0.178 px

b = 0.080 px

c = 0.422 px

xc = 6.309 pxyc = 8.866 px

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



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

Sum of residuals squared: 17101.7333

Standard deviation: 7.46364

R^2: 0.70329 Parameters:

a = 111.33294

b = 173.76050

c = 56.54740

d = 1.39249

Date: Mon Oct 17 13:54:23 PDT 2022

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

Frame size: 12 pixels

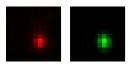
Coordinates: -47.1 um (x), 17.0 um (y), 59.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	398 nm	415 nm	270 nm
max	498 nm	518 nm	270 nm
Z	1.95 um	1.95 um	1.3 um
Asymmetry	0.8		
Theta	-80.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 749.853 (brightness)

B = 125.298 (background)

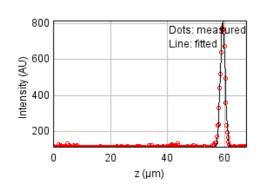
a = 0.839 px

b = -0.048 px

c = 0.549 px

xc = 6.915 pxyc = 7.206 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39159.8702

Standard deviation: 11.29409

R^2: 0.98761 Parameters: a = 113.64280 b = 813.55399 c = 59.37467

# Bead 3449 (Rejected)

Date: Mon Oct 17 13:54:24 PDT 2022

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

Frame size: 12 pixels

Coordinates: -157 um (x), 17.0 um (y), 58.1 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	677 nm	705 nm	270 nm
max	1.05 um	1.09 um	270 nm
Z	2.67 um	2.68 um	1.3 um
Asymmetry	0.647		
Theta	-67.9°		

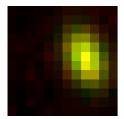
## XY profile & fitting parameters :

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





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



Parameters:

A = 224.976 (brightness)

B = 120.382 (background)

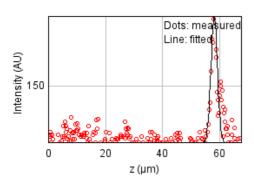
a = 0.269 px

b = -0.059 px

c = 0.147 px

xc = 8.019 pxyc = 5.157 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 19777.3240

Standard deviation: 8.02628

R^2: 0.76211 Parameters:

a = 111.48260

b = 197.34591

c = 58.13541

d = 1.13396

# Bead 3450 (Rejected)

Date: Mon Oct 17 13:54:24 PDT 2022

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

Frame size: 12 pixels

Coordinates: -157 um (x), 17.0 um (y), 58.1 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	668 nm	695 nm	270 nm
max	1.03 um	1.07 um	270 nm
Z	2.67 um	2.68 um	1.3 um
Asymmetry	0.648		
Theta	-67.5°		

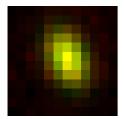
## XY profile & fitting parameters :

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





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



Parameters:

A = 224.416 (brightness) B = 122.319 (background)

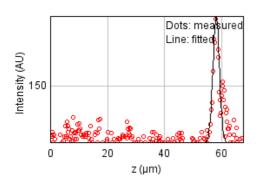
a = 0.275 px

b = -0.062 px

c = 0.152 px

xc = 6.024 pxyc = 5.160 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19777.3240

Standard deviation: 8.02628

R^2: 0.76211 Parameters:

a = 111.48260

b = 197.34591

c = 58.13541

d = 1.13396

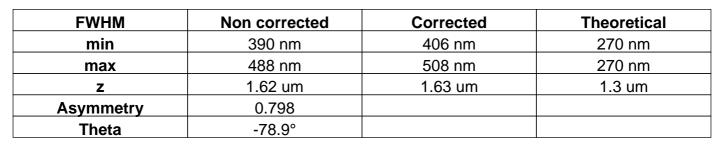
Date: Mon Oct 17 13:54:24 PDT 2022

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

Frame size: 12 pixels

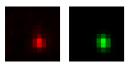
Coordinates: -80.1 um (x), 15.4 um (y), 59.7 um (z)

Corresponding bead: Not found

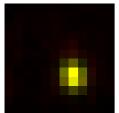


## XY profile & fitting parameters :

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



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



A = 906.235 (brightness)

B = 133.474 (background)

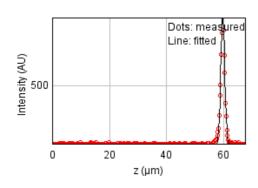
a = 0.872 px

b = -0.061 px

c = 0.575 px

xc = 6.997 pxyc = 7.402 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25989.6808

Standard deviation: 9.20092

R^2: 0.99323 Parameters: a = 114.05715 b = 957.66561 c = 59.73544

Date: Mon Oct 17 13:54:24 PDT 2022

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

Frame size: 12 pixels

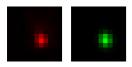
Coordinates: -73.3 um (x), 12.0 um (y), 59.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	506 nm	527 nm	270 nm
Z	1.88 um	1.89 um	1.3 um
Asymmetry	0.805		
Theta	-81.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 965.593 (brightness)

B = 126.781 (background)

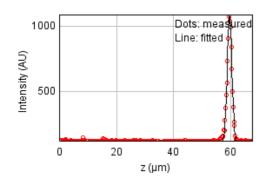
a = 0.801 px

b = -0.043 px

c = 0.530 px

xc = 7.001 pxyc = 6.807 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 28620.6843

Standard deviation: 9.65541

R^2: 0.99516 Parameters: a = 114.69704 b = 1090.89154 c = 59.66555

# Bead 3453 (Rejected)

Date: Mon Oct 17 13:54:24 PDT 2022

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

Frame size: 12 pixels

Coordinates: 20.9 um (x), 11.5 um (y), 58.7 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.88 um	3.89 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

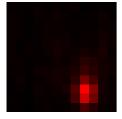
## XY profile & fitting parameters :

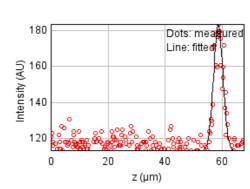
(red: the original data, green: the fit, yellow: the two merged)



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: 16729.8306

Standard deviation: 7.38204

R^2: 0.78311 Parameters: a = 113.00887 b = 183.59597 c = 58.68405

d = 1.64658

# Bead 3454 (Rejected)

Date: Mon Oct 17 13:54:25 PDT 2022

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

Frame size: 12 pixels

Coordinates: -41.4 um (x), 10.0 um (y), 60.2 um (z)

Corresponding bead: Not found

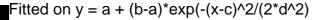
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	1.84 um	1.85 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

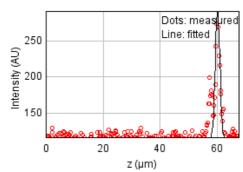
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on y = a +  $(b-a)*exp(-(x-c)^2/(2*d^2)$ Sum of residuals squared: 45879.0574

Standard deviation: 12.22470

R^2: 0.80540 Parameters: a = 115.46790b = 292.89993

c = 60.17858

Date: Mon Oct 17 13:54:25 PDT 2022

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

Frame size: 12 pixels

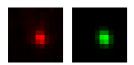
Coordinates: -25.4 um (x), 3.15 um (y), 59.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	416 nm	434 nm	270 nm
max	520 nm	542 nm	270 nm
Z	1.82 um	1.83 um	1.3 um
Asymmetry	0.8		
Theta	-74.0°		

## XY profile & fitting parameters :

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



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



A = 566.019 (brightness)

B = 122.893 (background)

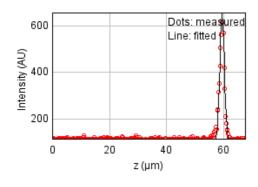
a = 0.753 px

b = -0.074 px

c = 0.517 px

xc = 6.577 pxyc = 6.203 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 45728.1962

Standard deviation: 12.20458

R^2: 0.97501 Parameters: a = 114.21481 b = 660.86677

c = 59.50498

Date: Mon Oct 17 13:54:25 PDT 2022

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

Frame size: 12 pixels

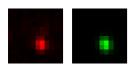
Coordinates: -10.4 um (x), -409 nm (y), 59.5 um (z)

Corresponding bead: Not found

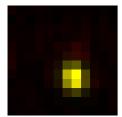
FWHM	Non corrected	Corrected	Theoretical
min	393 nm	409 nm	270 nm
max	480 nm	500 nm	270 nm
Z	1.76 um	1.76 um	1.3 um
Asymmetry	0.817		
Theta	-74.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 539.972 (brightness)

B = 126.277 (background)

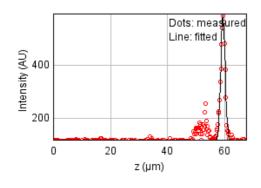
a = 0.851 px

b = -0.073 px

c = 0.601 px

xc = 6.746 pxyc = 7.359 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 107251.363

Standard deviation: 18.69099

R^2: 0.92366 Parameters: a = 119.32284 b = 593.23722

c = 59.45598

# Bead 3457 (Rejected)

Date: Mon Oct 17 13:54:25 PDT 2022

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

Frame size: 12 pixels

Coordinates: -69.9 um (x), -1.06 um (y), 13.0 um (z)

Corresponding bead: Not found

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

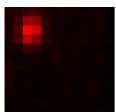
FWHM	Non corrected	Corrected	Theoretical
min	101 nm	106 nm	270 nm
max	4.88 um	5.09 um	270 nm
Z	3.07 um	3.08 um	1.3 um
Asymmetry	0.021		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.034$$



Parameters:

A = -66.730 (brightness)

B = 134.751 (background)

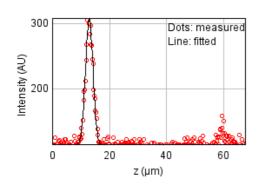
a = 6.590 px

b = 6.516 px

c = 6.431 px

xc = 4.185 pxyc = 4.340 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 21808.4395

Standard deviation: 8.42836

R^2: 0.94358

Parameters:

a = 114.86261

b = 307.97449

c = 12.98835

d = 1.30271

Date: Mon Oct 17 13:54:25 PDT 2022

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

Frame size: 12 pixels

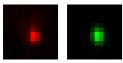
Coordinates: 5.12 um (x), -5.69 um (y), 59.3 um (z)

Corresponding bead: Not found

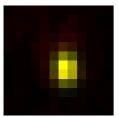
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	420 nm	270 nm
max	576 nm	600 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.7		
Theta	-86.3°		

## XY profile & fitting parameters :

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



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



A = 497.002 (brightness)

B = 123.778 (background)

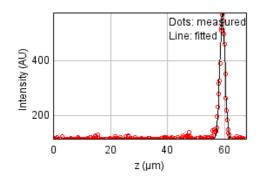
a = 0.825 px

b = -0.027 px

c = 0.406 px

xc = 6.269 pxyc = 6.363 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27002.4436

Standard deviation: 9.37848

R^2: 0.98174 Parameters:

a = 115.28239

b = 574.85329

c = 59.27581

Date: Mon Oct 17 13:54:25 PDT 2022

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

Frame size: 12 pixels

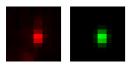
Coordinates: -32.2 um (x), -7.64 um (y), 59.5 um (z)

Corresponding bead: Not found

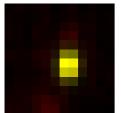
FWHM	Non corrected	Corrected	Theoretical
min	361 nm	376 nm	270 nm
max	513 nm	535 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.703		
Theta	89.5°		

### XY profile & fitting parameters :

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



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



A = 728.844 (brightness)

B = 140.798 (background)

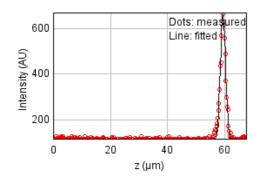
a = 1.031 px

b = 0.005 px

c = 0.509 px

xc = 6.471 pxyc = 6.244 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28793.0163

Standard deviation: 9.68444

R^2: 0.98665 Parameters:

a = 114.30570

b = 670.36506

c = 59.46743

Date: Mon Oct 17 13:54:25 PDT 2022

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

Frame size: 12 pixels

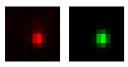
Coordinates: 45.5 um (x), -9.03 um (y), 59.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	406 nm	423 nm	270 nm
max	522 nm	543 nm	270 nm
Z	2.17 um	2.18 um	1.3 um
Asymmetry	0.778		
Theta	-88.1°		

## XY profile & fitting parameters :

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



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



A = 587.574 (brightness)

B = 121.593 (background)

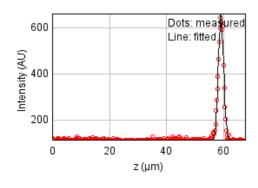
a = 0.814 px

b = -0.010 px

c = 0.494 px

xc = 6.745 pxyc = 6.544 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 37727.4734

Standard deviation: 11.08561

R^2: 0.98235 Parameters: a = 114.05077 b = 659.56888

000.0000

c = 59.12945

Date: Mon Oct 17 13:54:26 PDT 2022

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

Frame size: 12 pixels

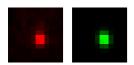
Coordinates: 32.9 um (x), -12.1 um (y), 59.2 um (z)

Corresponding bead: Not found

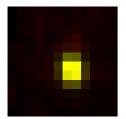
FWHM	Non corrected	Corrected	Theoretical
min	394 nm	410 nm	270 nm
max	502 nm	523 nm	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.784		
Theta	-83.1°		

### XY profile & fitting parameters :

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



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



A = 555.367 (brightness)

B = 123.827 (background)

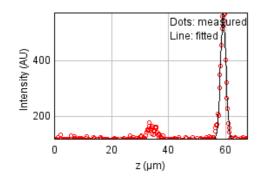
a = 0.861 px

b = -0.040 px

c = 0.537 px

xc = 6.518 pxyc = 6.425 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 63672.3485

Standard deviation: 14.40145

R^2: 0.95908 Parameters:

a = 117.51707

b = 572.52016

c = 59.19587

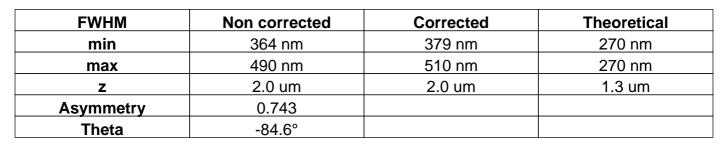
Date: Mon Oct 17 13:54:26 PDT 2022

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

Frame size: 12 pixels

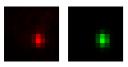
Coordinates: 42.0 um (x), -12.4 um (y), 59.2 um (z)

Corresponding bead: Not found

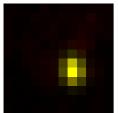


## XY profile & fitting parameters :

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



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



A = 605.694 (brightness)

B = 124.940 (background)

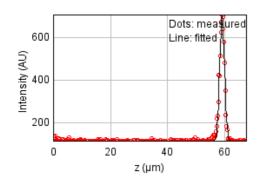
a = 1.008 px

b = -0.042 px

c = 0.563 px

xc = 7.083 pxyc = 6.779 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32785.7131

Standard deviation: 10.33411

R^2: 0.98594 Parameters: a = 114.56411 b = 708.02595

c = 59.16762

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Date: Mon Oct 17 13:54:26 PDT 2022

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

Frame size: 12 pixels

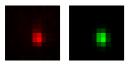
Coordinates: -41.2 um (x), -14.3 um (y), 59.7 um (z)

Corresponding bead : Not found

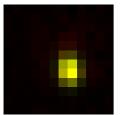
FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	519 nm	541 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.729		
Theta	-83.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 662.170 (brightness)

B = 122.582 (background)

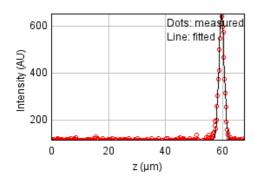
a = 0.931 px

b = -0.048 px

c = 0.503 px

xc = 6.683 pxyc = 6.642 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 28502.6160

Standard deviation: 9.63548

R^2: 0.98642 Parameters:

a = 114.43137

b = 654.30556

c = 59.66198

Date: Mon Oct 17 13:54:26 PDT 2022

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

Frame size: 12 pixels

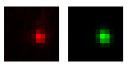
Coordinates: 32.0 um (x), -16.2 um (y), 59.4 um (z)

Corresponding bead: Not found

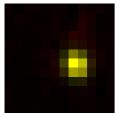
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	417 nm	270 nm
max	474 nm	493 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.845		
Theta	-72.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 592.998 (brightness)

B = 123.339 (background)

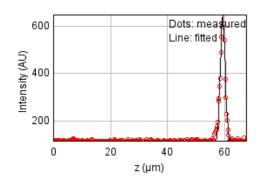
a = 0.817 px

b = -0.069 px

c = 0.620 px

xc = 7.331 pxyc = 6.156 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 33927.1785

Standard deviation: 10.51247

R^2: 0.98189 Parameters: a = 113.66509 b = 647.38474

c = 59.38330

Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

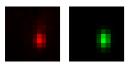
Coordinates: -4.15 um (x), -19.2 um (y), 59.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	365 nm	380 nm	270 nm
max	586 nm	610 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.623		
Theta	89.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 760.516 (brightness)

B = 128.271 (background)

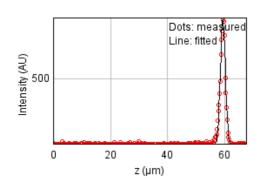
a = 1.009 px

b = 0.003 px

c = 0.391 px

xc = 7.156 pxyc = 6.748 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 46366.5967

Standard deviation: 12.28948

R^2: 0.98747 Parameters: a = 113.51648 b = 858.85548

c = 59.42910

Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

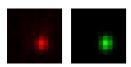
Coordinates: 38.8 um (x), -19.7 um (y), 59.3 um (z)

Corresponding bead: Not found

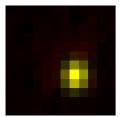
FWHM	Non corrected	Corrected	Theoretical
min	416 nm	433 nm	270 nm
max	511 nm	532 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.815		
Theta	85.0°		

## XY profile & fitting parameters :

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



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



A = 469.354 (brightness)

B = 125.670 (background)

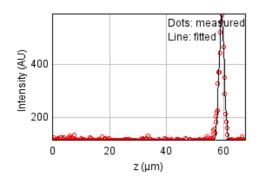
a = 0.773 px

b = 0.023 px

c = 0.517 px

xc = 7.143 pxyc = 7.131 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 42082.3932

Standard deviation: 11.70795

R^2: 0.97378 Parameters: a = 113.42558 b = 594.75077 c = 59.34288 d = 0.87761

Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

Coordinates: -71.7 um (x), -22.1 um (y), 59.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	511 nm	532 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.791		
Theta	-74.2°		

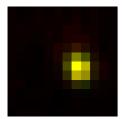
### XY profile & fitting parameters :

(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 = 624.504 (brightness)

B = 123.036 (background)

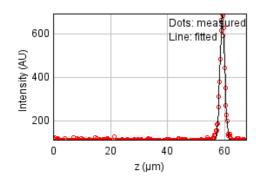
a = 0.799 px

b = -0.081 px

c = 0.537 px

xc = 7.294 pxyc = 6.181 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 24200.0212

Standard deviation: 8.87848

R^2: 0.98885 Parameters: a = 112.74972 b = 695.78107

c = 59.24532

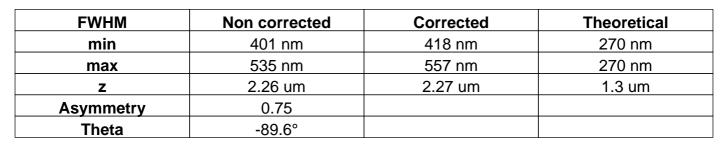
Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

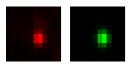
Coordinates: 49.2 um (x), -22.2 um (y), 59.2 um (z)

Corresponding bead: Not found

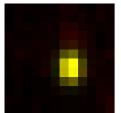


## XY profile & fitting parameters :

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



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



Parameters:

A = 506.693 (brightness)

B = 129.483 (background)

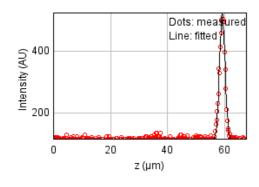
a = 0.833 px

b = -0.002 px

c = 0.469 px

xc = 6.699 pxyc = 6.457 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22347.3432

Standard deviation: 8.53186

R^2: 0.98202 Parameters:

a = 115.88043

b = 523.50585

c = 59.22771

Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

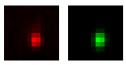
Coordinates: 9.33 um (x), -22.6 um (y), 59.4 um (z)

Corresponding bead: Not found

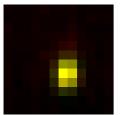
FWHM	Non corrected	Corrected	Theoretical
min	376 nm	392 nm	270 nm
max	536 nm	559 nm	270 nm
Z	2.16 um	2.17 um	1.3 um
Asymmetry	0.702		
Theta	85.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 613.598 (brightness)

B = 128.234 (background)

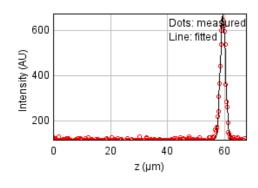
a = 0.944 px

b = 0.039 px

c = 0.470 px

xc = 6.409 pxyc = 7.045 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27060.7425

Standard deviation: 9.38860

R^2: 0.98790 Parameters: a = 114.17391 b = 673.86527

c = 59.43955

Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

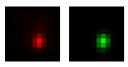
Coordinates: 1.52 um (x), -23.0 um (y), 59.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	403 nm	419 nm	270 nm
max	521 nm	543 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.773		
Theta	82.4°		

## XY profile & fitting parameters :

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



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



A = 904.156 (brightness)

B = 128.969 (background)

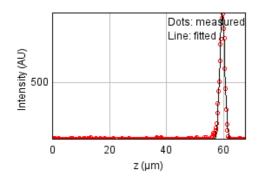
a = 0.822 px

b = 0.044 px

c = 0.500 px

xc = 6.926 pxyc = 7.171 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 55865.2171

Standard deviation: 13.48968

R^2: 0.98899 Parameters: a = 114.16360 b = 979.54685 c = 59.57097

# Bead 3471 (Rejected)

Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

Coordinates: 50.8 um (x), -23.3 um (y), 59.5 um (z)

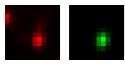
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

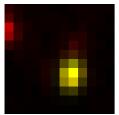
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	412 nm	270 nm
max	540 nm	563 nm	270 nm
Z	2.2 um	2.21 um	1.3 um
Asymmetry	0.731		
Theta	80.7°		

## XY profile & fitting parameters :

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



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



A = 685.731 (brightness)

B = 147.542 (background)

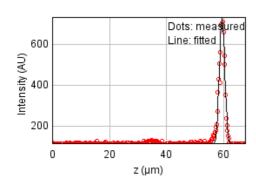
a = 0.848 px

b = 0.064 px

c = 0.470 px

xc = 6.796 pxyc = 7.201 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 68432.5338

Standard deviation: 14.93008

R^2: 0.97595 Parameters:

a = 114.96571

b = 737.72690

c = 59.49976

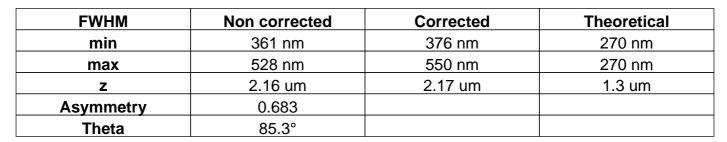
Date: Mon Oct 17 13:54:27 PDT 2022

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

Frame size: 12 pixels

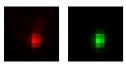
Coordinates: 6.9 um (x), -23.4 um (y), 59.5 um (z)

Corresponding bead: Not found

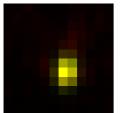


## XY profile & fitting parameters :

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



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



A = 760.817 (brightness)

B = 127.360 (background)

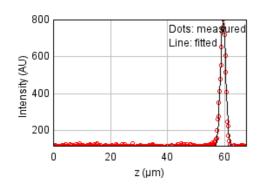
a = 1.028 px

b = 0.045 px

c = 0.485 px

xc = 6.347 pxyc = 6.903 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 41568.0670

Standard deviation: 11.63619

R^2: 0.98779 Parameters: a = 113.86420

b = 805.43529

c = 59.51750

Date: Mon Oct 17 13:54:28 PDT 2022

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

Frame size: 12 pixels

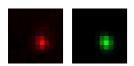
Coordinates: -25.1 um (x), -23.6 um (y), 59.8 um (z)

Corresponding bead: Not found

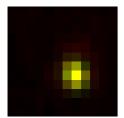
FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	503 nm	524 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.805		
Theta	-75.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 690.894 (brightness)

B = 127.587 (background)

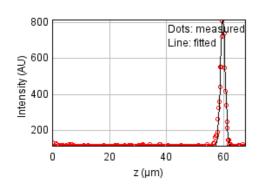
a = 0.798 px

b = -0.070 px

c = 0.548 px

xc = 6.888 pxyc = 6.940 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 56904.6738

Standard deviation: 13.61460

R^2: 0.98232 Parameters:

a = 113.49636

b = 816.92547

c = 59.75324

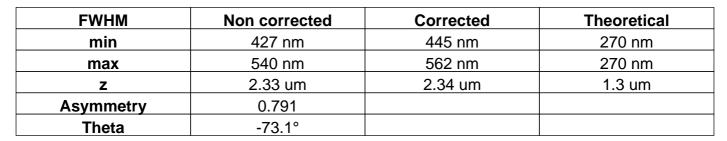
Date: Mon Oct 17 13:54:28 PDT 2022

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

Frame size: 12 pixels

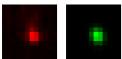
Coordinates: 150 um (x), -24.8 um (y), 58.9 um (z)

Corresponding bead: Not found

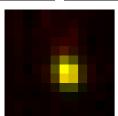


## XY profile & fitting parameters :

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



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



Parameters:

A = 448.073 (brightness)

B = 116.125 (background)

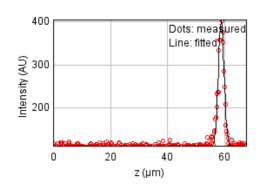
a = 0.712 px

b = -0.076 px

c = 0.484 px

xc = 6.345 pxyc = 6.338 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17835.9098

Standard deviation: 7.62217

R^2: 0.97388 Parameters:

a = 109.88796

b = 406.31304

c = 58.86148

Date: Mon Oct 17 13:54:28 PDT 2022

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

Frame size: 12 pixels

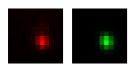
Coordinates: -2.64 um (x), -25.3 um (y), 59.6 um (z)

Corresponding bead: Not found

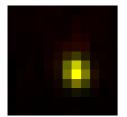
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	432 nm	270 nm
max	515 nm	537 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.804		
Theta	-77.7°		

### XY profile & fitting parameters :

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



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



A = 772.934 (brightness)

B = 128.425 (background)

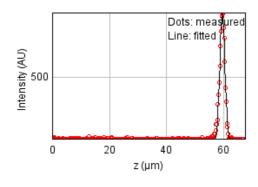
a = 0.769 px

b = -0.058 px

c = 0.518 px

xc = 6.997 pxyc = 6.722 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 33889.2726

Standard deviation: 10.50659

R^2: 0.99205 Parameters: a = 113.79821 b = 906.62061 c = 59.59936 d = 0.87567

Date: Mon Oct 17 13:54:28 PDT 2022

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

Frame size: 12 pixels

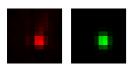
Coordinates: 84.8 um (x), -27.7 um (y), 59.1 um (z)

Corresponding bead: Not found

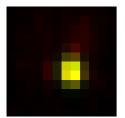
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	483 nm	503 nm	270 nm
Z	2.28 um	2.29 um	1.3 um
Asymmetry	0.805		
Theta	-85.1°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 592.519 (brightness)

B = 124.558 (background)

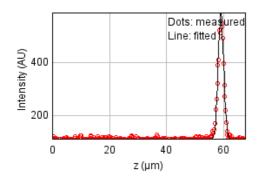
a = 0.886 px

b = -0.027 px

c = 0.579 px

xc = 6.580 pxyc = 6.575 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22548.0810

Standard deviation: 8.57009

R^2: 0.98666 Parameters: a = 112.20295

b = 587.00476

c = 59.09006

# Bead 3477 (Rejected)

Date: Mon Oct 17 13:54:28 PDT 2022

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

Frame size: 12 pixels

Coordinates: 50.7 um (x), -30.4 um (y), 31.4 um (z)

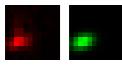
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	490 nm	511 nm	270 nm
max	769 nm	801 nm	270 nm
Z	3.24 um	3.25 um	1.3 um
Asymmetry	0.638		
Theta	17.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 423.264 (brightness)

B = 124.312 (background)

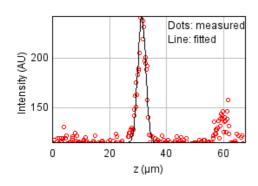
a = 0.257 px

b = 0.095 px

c = 0.528 px

xc = 2.509 pxyc = 7.511 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25344.4745

Standard deviation: 9.08599

R^2: 0.86992

Parameters:

a = 114.52658

b = 242.96506

c = 31.37612

Date: Mon Oct 17 13:54:28 PDT 2022

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

Frame size: 12 pixels

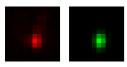
Coordinates: 103 um (x), -30.5 um (y), 59.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	376 nm	392 nm	270 nm
max	537 nm	560 nm	270 nm
Z	1.84 um	1.85 um	1.3 um
Asymmetry	0.7		
Theta	86.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 633.621 (brightness)

B = 127.646 (background)

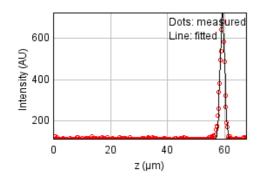
a = 0.947 px

b = 0.027 px

c = 0.466 px

xc = 6.269 pxyc = 7.028 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 42608.8477

Standard deviation: 11.78096

R^2: 0.98160 Parameters: a = 112.30091 b = 725.56571

c = 59.26947

Date: Mon Oct 17 13:54:28 PDT 2022

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

Frame size: 12 pixels

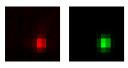
Coordinates: 39.7 um (x), -33.5 um (y), 59.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	373 nm	388 nm	270 nm
max	471 nm	490 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.792		
Theta	84.1°		

### XY profile & fitting parameters :

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



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



A = 716.438 (brightness)

B = 129.046 (background)

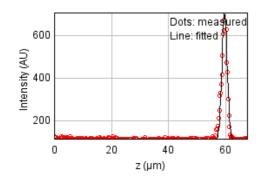
a = 0.961 px

b = 0.037 px

c = 0.609 px

xc = 7.250 pxyc = 7.578 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 60552.9278

Standard deviation: 14.04424

R^2: 0.97595 Parameters: a = 113.16818

b = 706.10166

c = 59.67012

Date: Mon Oct 17 13:54:29 PDT 2022

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

Frame size: 12 pixels

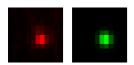
Coordinates: -104 um (x), -53.0 um (y), 59.3 um (z)

Corresponding bead: Not found

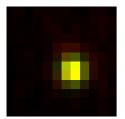
FWHM	Non corrected	Corrected	Theoretical
min	448 nm	466 nm	270 nm
max	493 nm	513 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.908		
Theta	-79.5°		

## XY profile & fitting parameters :

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



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



A = 523.432 (brightness)

B = 122.905 (background)

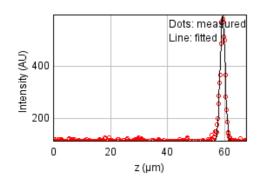
a = 0.665 px

b = -0.021 px

c = 0.556 px

xc = 6.723 pxyc = 6.474 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25112.3624

Standard deviation: 9.04429

R^2: 0.98427 Parameters: a = 112.97845 b = 600.39807

c = 59.33311

Date: Mon Oct 17 13:54:29 PDT 2022

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

Frame size: 12 pixels

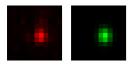
Coordinates: 116 um (x), -56.2 um (y), 59.1 um (z)

Corresponding bead: Not found

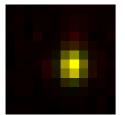
FWHM	Non corrected	Corrected	Theoretical
min	434 nm	452 nm	270 nm
max	537 nm	559 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.808		
Theta	89.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 434.012 (brightness)

B = 118.239 (background)

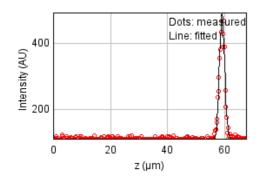
a = 0.714 px

b = 0.002 px

c = 0.466 px

xc = 6.833 pxyc = 6.146 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 34035.3459

Standard deviation: 10.52921

R^2: 0.96729 Parameters: a = 111.04408

b = 490.93878

c = 59.14522

Date: Mon Oct 17 13:54:29 PDT 2022

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

Frame size: 12 pixels

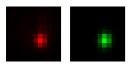
Coordinates: 31.9 um (x), -68.9 um (y), 59.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	406 nm	423 nm	270 nm
max	517 nm	539 nm	270 nm
Z	1.91 um	1.92 um	1.3 um
Asymmetry	0.785		
Theta	87.5°		

## XY profile & fitting parameters :

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



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



A = 747.583 (brightness)

B = 126.188 (background)

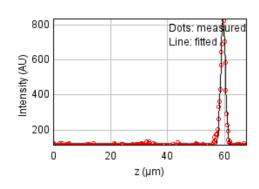
a = 0.813 px

b = 0.013 px

c = 0.502 px

xc = 7.115 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: 55259.2513

Standard deviation: 13.41632

R^2: 0.98355 Parameters: a = 114.02291 b = 840.69137 c = 59.50350

# Bead 3483 (Rejected)

Date: Mon Oct 17 13:54:29 PDT 2022

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

Frame size: 12 pixels

Coordinates: 112 um (x), -89.4 um (y), 56.3 um (z)

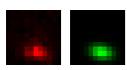
Corresponding bead: Not found

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

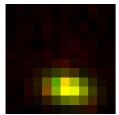
FWHM	Non corrected	Corrected	Theoretical
min	498 nm	519 nm	270 nm
max	803 nm	836 nm	270 nm
Z	3.9 um	3.92 um	1.3 um
Asymmetry	0.62		
Theta	-11.6°		

## XY profile & fitting parameters :

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



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



A = 250.615 (brightness)

B = 119.046 (background)

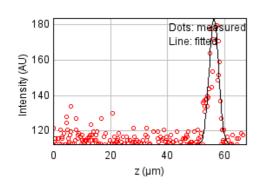
a = 0.222 px

b = -0.065 px

c = 0.528 px

xc = 6.320 pxyc = 8.711 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15058.8366

Standard deviation: 7.00368

R^2: 0.80496 Parameters:

a = 112.23224

b = 183.60223

c = 56.29406

Date: Mon Oct 17 13:54:29 PDT 2022

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

Frame size: 12 pixels

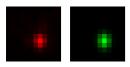
Coordinates: 33.2 um (x), -90.8 um (y), 59.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	416 nm	433 nm	270 nm
max	533 nm	555 nm	270 nm
Z	1.75 um	1.76 um	1.3 um
Asymmetry	0.78		
Theta	-88.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 795.003 (brightness)

B = 126.062 (background)

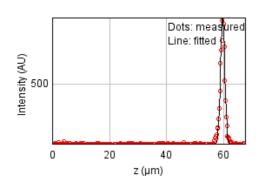
a = 0.775 px

b = -0.008 px

c = 0.472 px

xc = 6.934 pxyc = 7.033 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 49840.0642

Standard deviation: 12.74149

R^2: 0.98726 Parameters: a = 114.18710 b = 932.69224

c = 59.70140

# Bead 3485 (Rejected)

Date: Mon Oct 17 13:54:29 PDT 2022

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

Frame size: 12 pixels

Coordinates: 103 um (x), 85.2 um (y), 57.5 um (z)

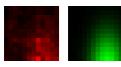
Corresponding bead: Not found

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

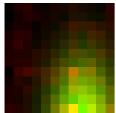
FWHM	Non corrected	Corrected	Theoretical
min	1.31 um	1.36 um	270 nm
max	2.73 um	2.84 um	270 nm
Z	3.02 um	3.03 um	1.3 um
Asymmetry	0.479		
Theta	89.7°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.806$$



Parameters:

A = 84.354 (brightness)

B = 117.722 (background)

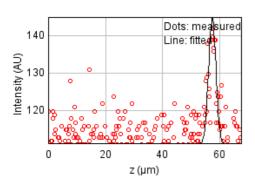
a = 0.079 px

b = 0.000 px

c = 0.018 px

xc = 8.046 pxyc = 13.392 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 12797.7923

Standard deviation: 6.45652

R^2: 0.46107 Parameters:

a = 111.23508

b = 144.93025

c = 57.46951

# Bead 3486 (Rejected)

Date: Mon Oct 17 13:54:30 PDT 2022

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

Frame size: 12 pixels

Coordinates: 40.1 um (x), 83.3 um (y), 57.3 um (z)

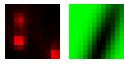
Corresponding bead: Not found

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

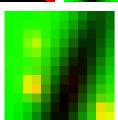
FWHM	Non corrected	Corrected	Theoretical
min	968 nm	1.01 um	270 nm
max	5.5 um	5.73 um	270 nm
Z	4.4 um	4.42 um	1.3 um
Asymmetry	0.176		
Theta	68.3°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.163$$



A = -164.983 (brightness)

B = 300.357 (background)

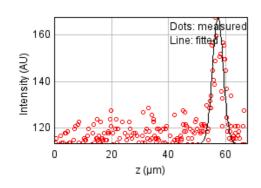
a = 0.123 px

b = 0.051 px

c = 0.016 px

xc = 6.389 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: 17343.5368

Standard deviation: 7.51622

R^2: 0.69766 Parameters:

a = 113.42311

b = 167.70340

c = 57.34168

Date: Mon Oct 17 13:54:30 PDT 2022

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

Frame size: 12 pixels

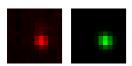
Coordinates: -146 um (x), 63.1 um (y), 59.1 um (z)

Corresponding bead: Not found

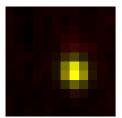
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	465 nm	270 nm
max	496 nm	516 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.901		
Theta	-70.6°		

## XY profile & fitting parameters :

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



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



A = 388.294 (brightness)

B = 116.694 (background)

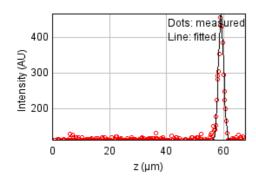
a = 0.659 px

b = -0.040 px

c = 0.560 px

xc = 7.018 pxyc = 6.615 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20485.7399

Standard deviation: 8.16877

R^2: 0.97761 Parameters: a = 110.54620

b = 467.80909

c = 59.13576

Date: Mon Oct 17 13:54:30 PDT 2022

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

Frame size: 12 pixels

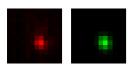
Coordinates: -125 um (x), 50.7 um (y), 59.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	404 nm	420 nm	270 nm
max	490 nm	511 nm	270 nm
Z	1.89 um	1.89 um	1.3 um
Asymmetry	0.823		
Theta	-74.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 474.380 (brightness)

B = 121.739 (background)

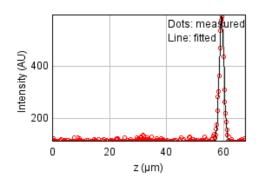
a = 0.806 px

b = -0.068 px

c = 0.577 px

xc = 6.793 pxyc = 6.971 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27073.4088

Standard deviation: 9.39079

R^2: 0.98161 Parameters: a = 113.49658 b = 596.81785

c = 59.34671

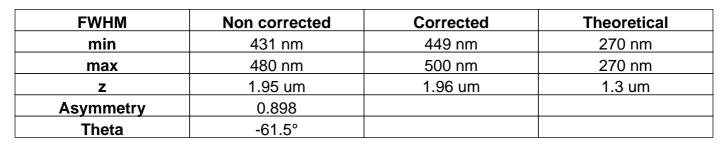
Date: Mon Oct 17 13:54:30 PDT 2022

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

Frame size: 12 pixels

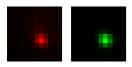
Coordinates: -140 um (x), 44.6 um (y), 59.4 um (z)

Corresponding bead: Not found

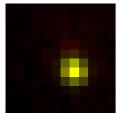


## XY profile & fitting parameters :

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



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



A = 368.973 (brightness)

B = 119.191 (background)

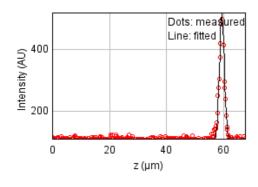
a = 0.690 px

b = -0.058 px

c = 0.614 px

xc = 6.982 pxyc = 6.803 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29218.3015

Standard deviation: 9.75570

R^2: 0.97281 Parameters: a = 111.99131 b = 516.61253 c = 59.44660

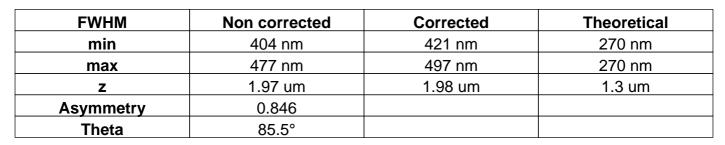
Date: Mon Oct 17 13:54:30 PDT 2022

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

Frame size: 12 pixels

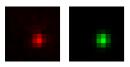
Coordinates: -132 um (x), 36.2 um (y), 59.6 um (z)

Corresponding bead: Not found

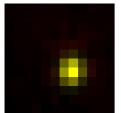


## XY profile & fitting parameters :

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



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



Parameters:

A = 519.469 (brightness)

B = 123.416 (background)

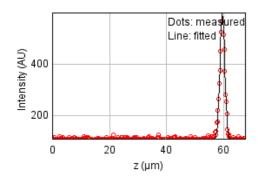
a = 0.820 px

b = 0.018 px

c = 0.590 px

xc = 6.825 pxyc = 6.838 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19232.7213

Standard deviation: 7.91500

R^2: 0.98749 Parameters: a = 111.12422

b = 596.25805

c = 59.60057

Date: Mon Oct 17 13:54:30 PDT 2022

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

Frame size: 12 pixels

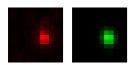
Coordinates: -126 um (x), 34.8 um (y), 59.3 um (z)

Corresponding bead: Not found

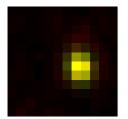
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	543 nm	566 nm	270 nm
Z	2.17 um	2.18 um	1.3 um
Asymmetry	0.794		
Theta	-80.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 521.673 (brightness)

B = 127.873 (background)

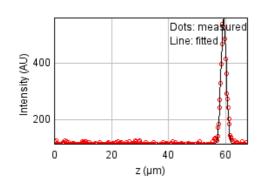
a = 0.714 px

b = -0.043 px

c = 0.462 px

xc = 7.411 pxyc = 6.114 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19933.2270

Standard deviation: 8.05786

R^2: 0.98626 Parameters:

a = 111.90606

b = 561.74219

c = 59.34679

Date: Mon Oct 17 13:54:31 PDT 2022

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

Frame size: 12 pixels

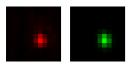
Coordinates: -153 um (x), 32.5 um (y), 59.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	385 nm	401 nm	270 nm
max	481 nm	501 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.8		
Theta	-81.0°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 851.562 (brightness)

B = 127.506 (background)

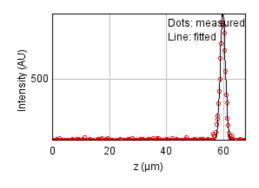
a = 0.896 px

b = -0.050 px

c = 0.587 px

xc = 7.063 pxyc = 6.864 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32980.7545

Standard deviation: 10.36480

R^2: 0.99262 Parameters: a = 111.85318 b = 915.69688 c = 59.74730

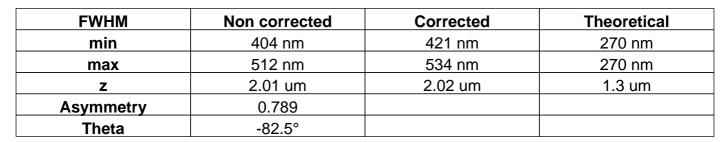
Date: Mon Oct 17 13:54:31 PDT 2022

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

Frame size: 12 pixels

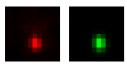
Coordinates: -154 um (x), 29.5 um (y), 59.9 um (z)

Corresponding bead: Not found



### XY profile & fitting parameters :

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



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



Parameters:

A = 855.340 (brightness)

B = 127.830 (background)

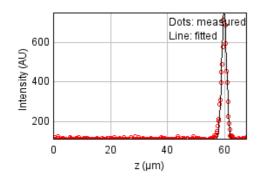
a = 0.817 px

b = -0.040 px

c = 0.517 px

xc = 6.191 pxyc = 7.521 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 53157.1236

Standard deviation: 13.15866

R^2: 0.98047 Parameters: a = 111.36329

b = 748.21479

c = 59.86879

# Bead 3494 (Rejected)

Date: Mon Oct 17 13:54:31 PDT 2022

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

Frame size: 12 pixels

Coordinates: -106 um (x), 28.5 um (y), 60.0 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.27 um	3.28 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

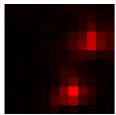
## XY profile & fitting parameters :

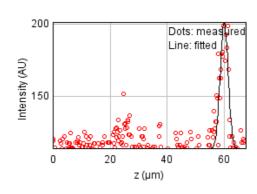
(red: the orignal data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 26739.2543

Standard deviation: 9.33266

R^2: 0.74545 Parameters: a = 114.20962 b = 201.09330 c = 60.03935

Date: Mon Oct 17 13:54:31 PDT 2022

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

Frame size: 12 pixels

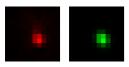
Coordinates: -72.4 um (x), 28.6 um (y), 59.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	399 nm	415 nm	270 nm
max	481 nm	501 nm	270 nm
Z	1.82 um	1.83 um	1.3 um
Asymmetry	0.829		
Theta	-65.4°		

## XY profile & fitting parameters :

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



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



A = 680.699 (brightness)

B = 122.871 (background)

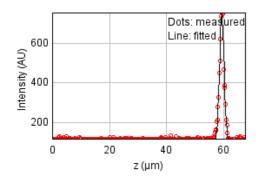
a = 0.798 px

b = -0.100 px

c = 0.625 px

xc = 6.770 pxyc = 6.626 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 43605.7535

Standard deviation: 11.91798

R^2: 0.98259 Parameters:

a = 114.68989

b = 756.04056

c = 59.41377

Date: Mon Oct 17 13:54:31 PDT 2022

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

Frame size: 12 pixels

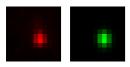
Coordinates: -87.1 um (x), 27.0 um (y), 59.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	437 nm	455 nm	270 nm
max	543 nm	566 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.804		
Theta	-87.3°		

## XY profile & fitting parameters :

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



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



A = 667.625 (brightness)

B = 122.983 (background)

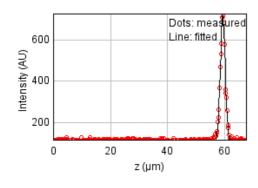
a = 0.703 px

b = -0.012 px

c = 0.456 px

xc = 6.899 pxyc = 6.600 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 38715.6406

Standard deviation: 11.22985

R^2: 0.98402 Parameters:

a = 114.65928

b = 726.10318

c = 59.41265

# Bead 3497 (Rejected)

Date: Mon Oct 17 13:54:31 PDT 2022

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

Frame size: 12 pixels

Coordinates: -76.1 um (x), 27.4 um (y), 43.4 um (z)

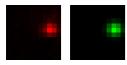
Corresponding bead: Not found

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

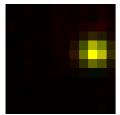
FWHM	Non corrected	Corrected	Theoretical
min	459 nm	478 nm	270 nm
max	497 nm	518 nm	270 nm
Z	4.5 um	4.52 um	1.3 um
Asymmetry	0.923		
Theta	-1.3°		

## XY profile & fitting parameters :

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



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



A = 738.861 (brightness)

B = 122.636 (background)

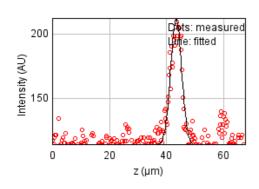
a = 0.543 px

b = -0.002 px

c = 0.637 px

xc = 9.223 pxyc = 4.795 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 22267.8558

Standard deviation: 8.51667

R^2: 0.85747

Parameters:

a = 114.13869

b = 212.44701

c = 43.42258

Date: Mon Oct 17 13:54:31 PDT 2022

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

Frame size: 12 pixels

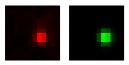
Coordinates: -63.7 um (x), 26.2 um (y), 59.2 um (z)

Corresponding bead: Not found

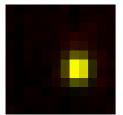
FWHM	Non corrected	Corrected	Theoretical
min	424 nm	442 nm	270 nm
max	493 nm	513 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.861		
Theta	89.5°		

## XY profile & fitting parameters :

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



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



A = 571.455 (brightness)

B = 124.158 (background)

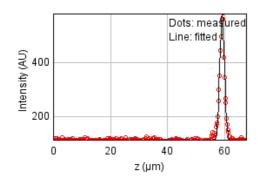
a = 0.746 px

b = 0.002 px

c = 0.552 px

xc = 7.388 pxyc = 6.478 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23918.6297

Standard deviation: 8.82671

R^2: 0.98294 Parameters: a = 114.19809 b = 579.74457 c = 59.16999

Date: Mon Oct 17 13:54:32 PDT 2022

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

Frame size: 12 pixels

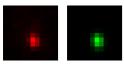
Coordinates: -74.5 um (x), 24.7 um (y), 59.4 um (z)

Corresponding bead: Not found

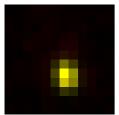
FWHM	Non corrected	Corrected	Theoretical
min	374 nm	389 nm	270 nm
max	498 nm	519 nm	270 nm
Z	1.73 um	1.74 um	1.3 um
Asymmetry	0.75		
Theta	-80.5°		

## XY profile & fitting parameters :

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



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



A = 611.582 (brightness)

B = 121.583 (background)

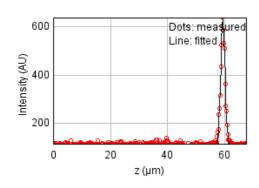
a = 0.950 px

b = -0.069 px

c = 0.553 px

xc = 6.227 pxyc = 7.277 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27141.0623

Standard deviation: 9.40252

R^2: 0.98295 Parameters: a = 114.47918 b = 638.25905 c = 59.43388

# Bead 3500 (Rejected)

Date: Mon Oct 17 13:54:32 PDT 2022

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

Frame size: 12 pixels

Coordinates: -139 um (x), 17.7 um (y), 59.3 um (z)

Corresponding bead: Not found

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

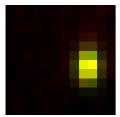
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	616 nm	642 nm	270 nm
Z	4.33 um	4.35 um	1.3 um
Asymmetry	0.672		
Theta	88.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 480.136 (brightness)

B = 121.031 (background)

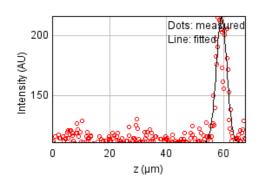
a = 0.783 px

b = 0.008 px

c = 0.354 px

xc = 8.522 pxyc = 6.164 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 28777.6890

Standard deviation: 9.68186

R^2: 0.83650 Parameters:

a = 110.86797

b = 215.70294

c = 59.32442