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

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

Frame size: 12 pixels

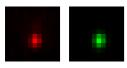
Coordinates: -16.9 um (x), -61.0 um (y), 60.2 um (z)

Corresponding bead: Not found

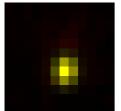
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	497 nm	517 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.784		
Theta	84.7°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 789.446 (brightness)

B = 127.311 (background)

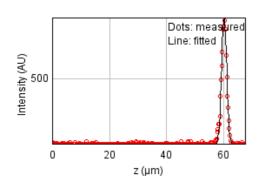
a = 0.883 px

b = 0.031 px

c = 0.547 px

xc = 6.148 pxyc = 6.926 px

# Z profile & fitting parameters:



Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 33044.8514

Sum of residuals squared: 33044.85

Standard deviation: 10.37487

R^2: 0.99142 Parameters: a = 114.22336 b = 864.68172 c = 60.22061

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

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

Frame size: 12 pixels

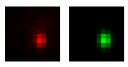
Coordinates: -12.7 um (x), -67.0 um (y), 60.1 um (z)

Corresponding bead: Not found

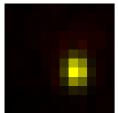
FWHM	Non corrected	Corrected	Theoretical
min	394 nm	410 nm	270 nm
max	530 nm	552 nm	270 nm
Z	2.03 um	2.03 um	1.3 um
Asymmetry	0.743		
Theta	-88.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 685.551 (brightness)

B = 126.885 (background)

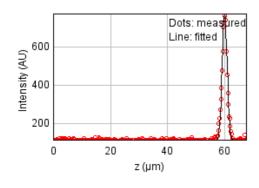
a = 0.866 px

b = -0.013 px

c = 0.478 px

xc = 7.298 pxyc = 6.849 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 34038.8133

Standard deviation: 10.52975

R^2: 0.98821 Parameters: a = 114.73456 b = 771.18264 c = 60.05368

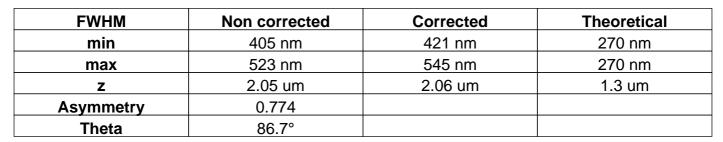
Date: Mon Oct 17 13:54:32 PDT 2022

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

Frame size: 12 pixels

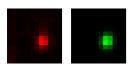
Coordinates: 5.14 um (x), -69.1 um (y), 60.3 um (z)

Corresponding bead : Not found

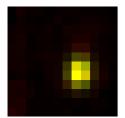


## XY profile & fitting parameters :

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



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



Parameters:

A = 618.037 (brightness)

B = 132.826 (background)

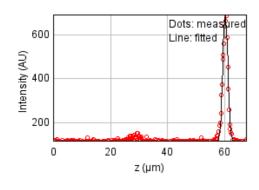
a = 0.818 px

b = 0.019 px

c = 0.492 px

xc = 7.345 pxyc = 6.661 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 46794.9149

Standard deviation: 12.34611

R^2: 0.97915 Parameters: a = 116.42728 b = 689.09206

c = 60.28682

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

Frame size: 12 pixels

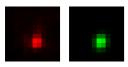
Coordinates: 63.7 um (x), -72.1 um (y), 60.4 um (z)

Corresponding bead: Not found

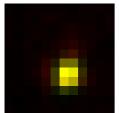
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	500 nm	521 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.827		
Theta	76.5°		

### XY profile & fitting parameters :

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



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



A = 873.774 (brightness)

B = 129.313 (background)

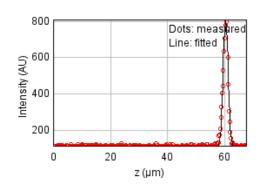
a = 0.771 px

b = 0.056 px

c = 0.550 px

xc = 6.418 pxyc = 7.261 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 48410.0863

Standard deviation: 12.55737

R^2: 0.98514 Parameters: a = 113.88276 b = 813.13998 c = 60.39933

# Bead 3605 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: 3.47 um (x), -73.8 um (y), 60.6 um (z)

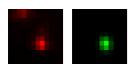
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

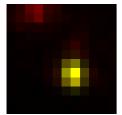
FWHM	Non corrected	Corrected	Theoretical
min	375 nm	390 nm	270 nm
max	472 nm	492 nm	270 nm
Z	1.87 um	1.88 um	1.3 um
Asymmetry	0.794		
Theta	-82.4°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 795.134 (brightness)

B = 145.737 (background)

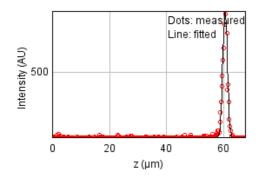
a = 0.949 px

b = -0.047 px

c = 0.609 px

xc = 6.784 pxyc = 7.120 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 76093.8466

Standard deviation: 15.74366

R^2: 0.97853 Parameters:

a = 114.05293

b = 865.44107

c = 60.55643

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

Frame size: 12 pixels

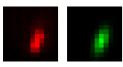
Coordinates: -10.6 um (x), -81.1 um (y), 60.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	430 nm	448 nm	270 nm
max	898 nm	935 nm	270 nm
Z	2.43 um	2.44 um	1.3 um
Asymmetry	0.479		
Theta	70.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 929.271 (brightness)

B = 135.153 (background)

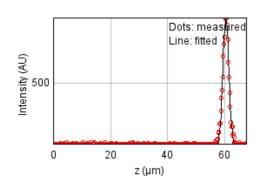
a = 0.665 px

b = 0.173 px

c = 0.226 px

xc = 6.987 pxyc = 7.023 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 30882.0393

Standard deviation: 10.02960

R^2: 0.99387 Parameters: a = 113.84592 b = 912.50122 c = 60.48350 d = 1.03052

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

Frame size: 12 pixels

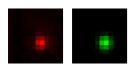
Coordinates: -154 um (x), 12.9 um (y), 60.2 um (z)

Corresponding bead: Not found

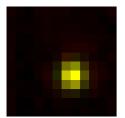
FWHM	Non corrected	Corrected	Theoretical
min	438 nm	456 nm	270 nm
max	485 nm	506 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.902		
Theta	-86.2°		

### XY profile & fitting parameters :

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



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



A = 444.366 (brightness)

B = 120.803 (background)

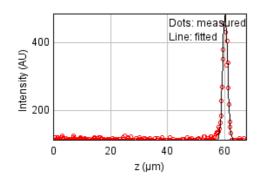
a = 0.699 px

b = -0.009 px

c = 0.570 px

xc = 6.691 pxyc = 7.012 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29596.6602

Standard deviation: 9.81866

R^2: 0.96904 Parameters:

a = 110.99744

b = 487.52805

c = 60.22094

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

Frame size: 12 pixels

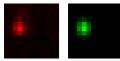
Coordinates: -157 um (x), 12.5 um (y), 42.4 um (z)

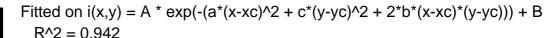
Corresponding bead: Not found

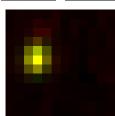
FWHM	Non corrected	Corrected	Theoretical
min	421 nm	439 nm	270 nm
max	529 nm	551 nm	270 nm
Z	1.99 um	2.0 um	1.3 um
Asymmetry	0.796		
Theta	86.1°		

## XY profile & fitting parameters :

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







Parameters:

A = 394.318 (brightness)

B = 114.806 (background)

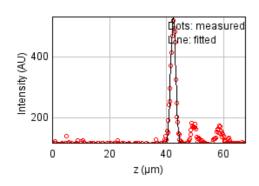
a = 0.754 px

b = 0.019 px

c = 0.480 px

xc = 2.897 pxyc = 4.839 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 78818.5358

Standard deviation: 16.02304

R^2: 0.93414 Parameters: a = 117.36907 b = 531.53799 c = 42.39784

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

Frame size: 12 pixels

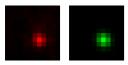
Coordinates: -139 um (x), 1.42 um (y), 60.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	451 nm	469 nm	270 nm
max	491 nm	511 nm	270 nm
Z	1.97 um	1.97 um	1.3 um
Asymmetry	0.918		
Theta	-67.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 463.340 (brightness)

B = 118.228 (background)

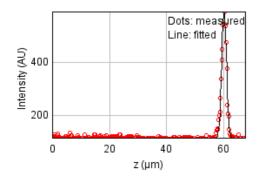
a = 0.646 px

b = -0.037 px

c = 0.572 px

xc = 7.043 pxyc = 7.056 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23828.6037

Standard deviation: 8.81009

R^2: 0.98437 Parameters:

a = 112.54416

b = 595.58257

c = 60.21222

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

Frame size: 12 pixels

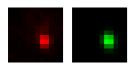
Coordinates: -150 um (x), 820 nm (y), 60.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	538 nm	560 nm	270 nm
Z	2.36 um	2.37 um	1.3 um
Asymmetry	0.742		
Theta	-81.9°		

### XY profile & fitting parameters :

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



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



A = 503.153 (brightness)

B = 123.051 (background)

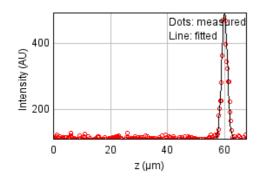
a = 0.834 px

b = -0.053 px

c = 0.471 px

xc = 7.448 pxyc = 6.773 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 41977.0263

Standard deviation: 11.69329

R^2: 0.96393 Parameters: a = 110.62056 b = 493.84196

c = 60.01843

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d = 1.00035

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

Frame size: 12 pixels

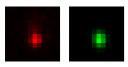
Coordinates: -129 um (x), -3.56 um (y), 60.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	413 nm	430 nm	270 nm
max	535 nm	557 nm	270 nm
Z	2.27 um	2.28 um	1.3 um
Asymmetry	0.772		
Theta	-86.6°		

### XY profile & fitting parameters :

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



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



A = 562.532 (brightness)

B = 121.806 (background)

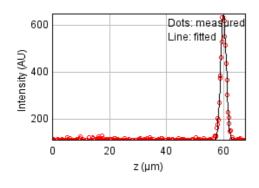
a = 0.785 px

b = -0.019 px

c = 0.470 px

xc = 6.190 pxyc = 6.698 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 21744.1832

Standard deviation: 8.41593

R^2: 0.98995 Parameters: a = 111.81063 b = 650.37667 c = 59.99268

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

Frame size: 12 pixels

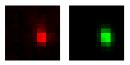
Coordinates: -119 um (x), -9.66 um (y), 60.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	390 nm	407 nm	270 nm
max	586 nm	610 nm	270 nm
Z	2.66 um	2.67 um	1.3 um
Asymmetry	0.666		
Theta	-82.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 464.750 (brightness)

B = 120.813 (background)

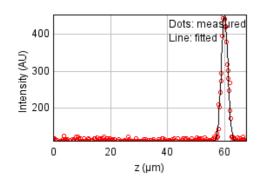
a = 0.871 px

b = -0.067 px

c = 0.400 px

xc = 7.556 pxyc = 6.410 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 24367.1697

Standard deviation: 8.90909

R^2: 0.97597 Parameters: a = 111.95790 b = 452.06795

c = 60.01847

d = 1.12873

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

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

Frame size: 12 pixels

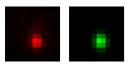
Coordinates: -152 um (x), -12.0 um (y), 60.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	430 nm	448 nm	270 nm
max	528 nm	550 nm	270 nm
Z	2.19 um	2.2 um	1.3 um
Asymmetry	0.816		
Theta	-86.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 732.043 (brightness)

B = 125.088 (background)

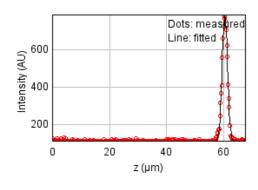
a = 0.723 px

b = -0.013 px

c = 0.482 px

xc = 6.378 pxyc = 7.141 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21335.6665

Standard deviation: 8.33650

R^2: 0.99343 Parameters: a = 111.97901 b = 783.81549

c = 60.46962

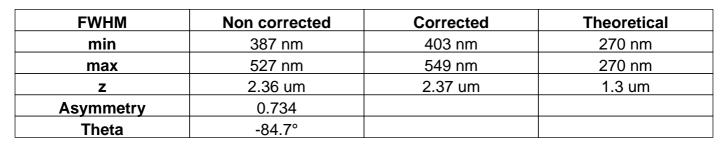
Date: Mon Oct 17 13:54:32 PDT 2022

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

Frame size: 12 pixels

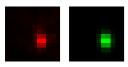
Coordinates: -147 um (x), -12.6 um (y), 60.4 um (z)

Corresponding bead: Not found



## XY profile & fitting parameters :

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



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



Parameters:

A = 665.236 (brightness)

B = 125.803 (background)

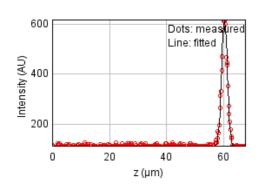
a = 0.894 px

b = -0.038 px

c = 0.487 px

xc = 7.484 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: 24993.7649

Standard deviation: 9.02291

R^2: 0.98746 Parameters: a = 111.49993 b = 619.13258 c = 60.35194

d = 1.00055

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

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

Frame size: 12 pixels

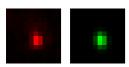
Coordinates: -112 um (x), -15.8 um (y), 60.2 um (z)

Corresponding bead: Not found

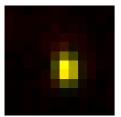
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	526 nm	548 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.735		
Theta	-84.0°		

### XY profile & fitting parameters :

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



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



A = 611.813 (brightness)

B = 123.268 (background)

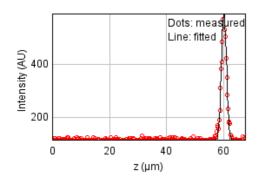
a = 0.892 px

b = -0.043 px

c = 0.489 px

xc = 6.256 pxyc = 6.424 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21628.0226

Standard deviation: 8.39343

R^2: 0.98647 Parameters: a = 112.30243 b = 596.84291

c = 60.15508

Date: Mon Oct 17 13:54:33 PDT 2022

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

Frame size: 12 pixels

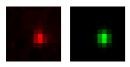
Coordinates: -99.0 um (x), -15.6 um (y), 60.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	394 nm	411 nm	270 nm
max	494 nm	514 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.799		
Theta	-88.8°		

### XY profile & fitting parameters :

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



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



A = 398.871 (brightness)

B = 119.543 (background)

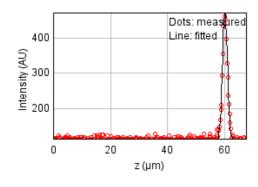
a = 0.863 px

b = -0.006 px

c = 0.551 px

xc = 6.857 pxyc = 6.413 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16720.1886

Standard deviation: 7.37992

R^2: 0.98069 Parameters:

a = 113.68522

b = 473.33208

c = 60.17276

## Bead 3617 (Rejected)

Date: Mon Oct 17 13:54:33 PDT 2022

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

Frame size: 12 pixels

Coordinates: -105 um (x), -17.8 um (y), 60.9 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	578 nm	602 nm	270 nm
max	1.21 um	1.26 um	270 nm
Z	2.78 um	2.79 um	1.3 um
Asymmetry	0.478		
Theta	48.0°		

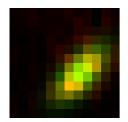
## XY profile & fitting parameters :

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





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



Parameters:

A = 304.052 (brightness) B = 120.948 (background)

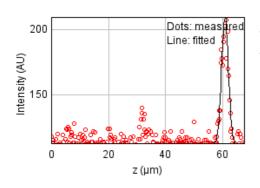
a = 0.263 px

b = 0.154 px

c = 0.230 px

xc = 7.229 pxyc = 6.629 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15513.1126

Standard deviation: 7.10854

R^2: 0.84504 Parameters:

a = 112.17185

b = 209.51046

c = 60.87833

d = 1.18125

Date: Mon Oct 17 13:54:33 PDT 2022

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

Frame size: 12 pixels

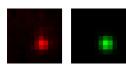
Coordinates: -124 um (x), -18.6 um (y), 60.0 um (z)

Corresponding bead: Not found

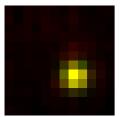
FWHM	Non corrected	Corrected	Theoretical
min	450 nm	469 nm	270 nm
max	480 nm	500 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.938		
Theta	-80.7°		

## XY profile & fitting parameters :

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



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



A = 439.995 (brightness)

B = 124.105 (background)

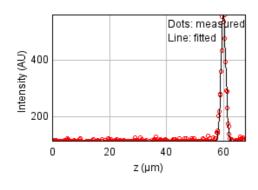
a = 0.660 px

b = -0.013 px

c = 0.585 px

xc = 7.206 pxyc = 7.217 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25234.1961

Standard deviation: 9.06621

R^2: 0.98090 Parameters: a = 112.07678 b = 564.90765

c = 59.98042

Date: Mon Oct 17 13:54:33 PDT 2022

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

Frame size: 12 pixels

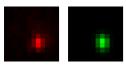
Coordinates: -121 um (x), -22.2 um (y), 60.4 um (z)

Corresponding bead: Not found

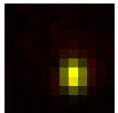
FWHM	Non corrected	Corrected	Theoretical
min	402 nm	419 nm	270 nm
max	532 nm	554 nm	270 nm
Z	1.89 um	1.9 um	1.3 um
Asymmetry	0.755		
Theta	-88.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 559.660 (brightness)

B = 125.226 (background)

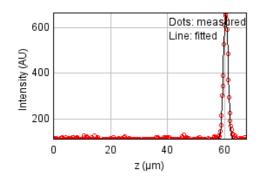
a = 0.831 px

b = -0.008 px

c = 0.474 px

xc = 7.030 pxyc = 7.370 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16589.6950

Standard deviation: 7.35106

R^2: 0.99130 Parameters:

a = 112.25882

b = 665.09019

c = 60.44849

Date: Mon Oct 17 13:54:33 PDT 2022

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

Frame size: 12 pixels

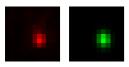
Coordinates: -107 um (x), -22.5 um (y), 60.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	430 nm	448 nm	270 nm
max	539 nm	561 nm	270 nm
Z	2.06 um	2.06 um	1.3 um
Asymmetry	0.799		
Theta	-82.1°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 612.714 (brightness)

B = 123.212 (background)

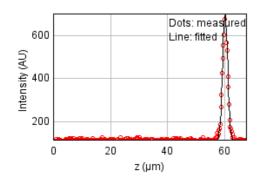
a = 0.720 px

b = -0.036 px

c = 0.468 px

xc = 7.052 pxyc = 6.700 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25435.0353

Standard deviation: 9.10221

R^2: 0.98918 Parameters: a = 113.45656 b = 701.96563 c = 60.21605

Date: Mon Oct 17 13:54:33 PDT 2022

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

Frame size: 12 pixels

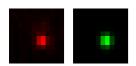
Coordinates: -84.1 um (x), -23.1 um (y), 60.2 um (z)

Corresponding bead: Not found

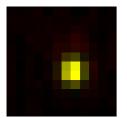
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	409 nm	270 nm
max	454 nm	473 nm	270 nm
Z	1.99 um	2.0 um	1.3 um
Asymmetry	0.864		
Theta	-89.5°		

## XY profile & fitting parameters :

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



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



A = 546.019 (brightness)

B = 124.112 (background)

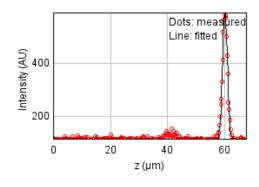
a = 0.872 px

b = -0.002 px

c = 0.651 px

xc = 6.725 pxyc = 6.535 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25058.3267

Standard deviation: 9.03456

R^2: 0.98333 Parameters:

a = 114.84262

b = 591.53649

c = 60.17227

Date: Mon Oct 17 13:54:33 PDT 2022

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

Frame size: 12 pixels

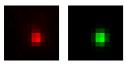
Coordinates: -58.4 um (x), -37.9 um (y), 60.2 um (z)

Corresponding bead: Not found

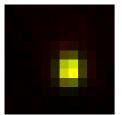
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	507 nm	528 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.807		
Theta	88.3°		

## XY profile & fitting parameters :

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



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



A = 650.545 (brightness)

B = 124.164 (background)

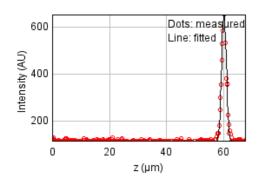
a = 0.800 px

b = 0.008 px

c = 0.522 px

xc = 6.611 pxyc = 6.617 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28413.1221

Standard deviation: 9.62034

R^2: 0.98499 Parameters:

a = 112.90833

b = 656.89048

c = 60.17442

Date: Mon Oct 17 13:54:34 PDT 2022

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

Frame size: 12 pixels

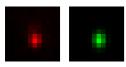
Coordinates: -63.6 um (x), -37.9 um (y), 60.3 um (z)

Corresponding bead: Not found

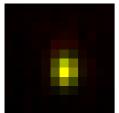
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	424 nm	270 nm
max	531 nm	553 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.767		
Theta	-89.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 689.581 (brightness)

B = 124.865 (background)

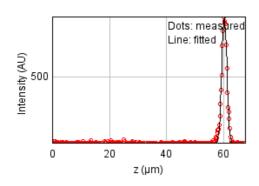
a = 0.809 px

b = -0.000 px

c = 0.477 px

xc = 6.110 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: 32218.8207

Standard deviation: 10.24438

R^2: 0.99127 Parameters: a = 113.11014 b = 846.85655

c = 60.28868

Date: Mon Oct 17 13:54:34 PDT 2022

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

Frame size: 12 pixels

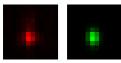
Coordinates: -21.7 um (x), -50.9 um (y), 14.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	403 nm	420 nm	270 nm
max	548 nm	570 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.736		
Theta	-88.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 545.032 (brightness)

B = 123.269 (background)

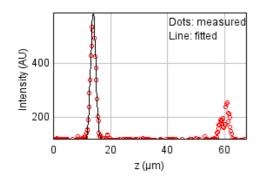
a = 0.826 px

b = -0.009 px

c = 0.448 px

xc = 5.210 pxyc = 6.723 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 161343.698

Standard deviation: 22.92487

R^2: 0.90276 Parameters: a = 119.68332 b = 589.30042 c = 14.03785

Date: Mon Oct 17 13:54:34 PDT 2022

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

Frame size: 12 pixels

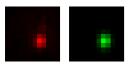
Coordinates: 17.2 um (x), -56.4 um (y), 60.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	392 nm	408 nm	270 nm
max	499 nm	519 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.786		
Theta	86.8°		

## XY profile & fitting parameters :

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



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



A = 743.831 (brightness)

B = 129.799 (background)

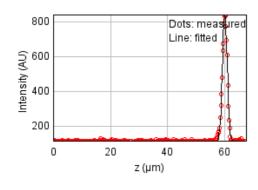
a = 0.872 px

b = 0.019 px

c = 0.541 px

xc = 7.265 pxyc = 7.066 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23931.0675

Standard deviation: 8.82901

R^2: 0.99301 Parameters: a = 114.14611 b = 840.91147 c = 60.12012

Date: Mon Oct 17 13:54:34 PDT 2022

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

Frame size: 12 pixels

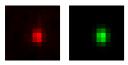
Coordinates: -6.67 um (x), -57.8 um (y), 60.3 um (z)

Corresponding bead: Not found

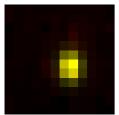
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	413 nm	270 nm
max	530 nm	552 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.749		
Theta	-88.1°		

### XY profile & fitting parameters :

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



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



A = 547.285 (brightness)

B = 122.072 (background)

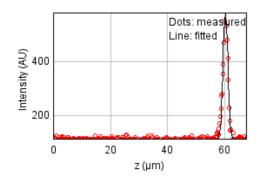
a = 0.852 px

b = -0.012 px

c = 0.478 px

xc = 6.678 pxyc = 6.256 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27719.3657

Standard deviation: 9.50216

R^2: 0.98082 Parameters:

a = 112.99568

b = 582.20837

c = 60.33383

Date: Mon Oct 17 13:54:34 PDT 2022

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

Frame size: 12 pixels

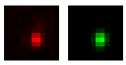
Coordinates: 21.2 um (x), -58.0 um (y), 60.1 um (z)

Corresponding bead: Not found

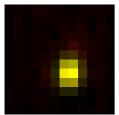
FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	536 nm	558 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.761		
Theta	85.7°		

## XY profile & fitting parameters :

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



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



A = 575.613 (brightness)

B = 124.252(background)

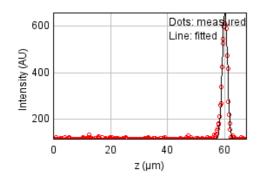
a = 0.805 px

b = 0.026 px

c = 0.469 px

xc = 6.562 pxyc = 6.930 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 33052.4927

Standard deviation: 10.37607

R^2: 0.98414 Parameters: a = 113.99573

b = 658.39736

c = 60.12710

Date: Mon Oct 17 13:54:34 PDT 2022

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

Frame size: 12 pixels

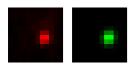
Coordinates: -9.35 um (x), -59.5 um (y), 60.1 um (z)

Corresponding bead : Not found

FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	490 nm	510 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.828		
Theta	77.1°		

### XY profile & fitting parameters :

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



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



A = 615.117 (brightness)

B = 124.256 (background)

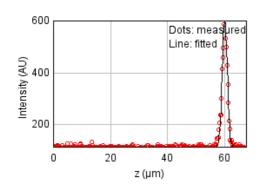
a = 0.804 px

b = 0.056 px

c = 0.573 px

xc = 7.484 pxyc = 6.125 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20929.4175

Standard deviation: 8.25675

R^2: 0.98734 Parameters: a = 113.97756 b = 601.99211 c = 60.10261

Date: Mon Oct 17 13:54:34 PDT 2022

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

Frame size: 12 pixels

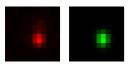
Coordinates: 16.9 um (x), -62.1 um (y), 60.1 um (z)

Corresponding bead: Not found

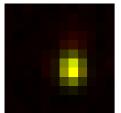
FWHM	Non corrected	Corrected	Theoretical
min	416 nm	433 nm	270 nm
max	540 nm	562 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.77		
Theta	-89.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 688.158 (brightness)

B = 126.935 (background)

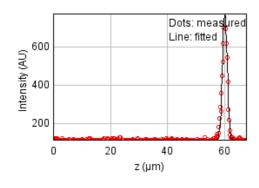
a = 0.777 px

b = -0.002 px

c = 0.461 px

xc = 6.864 pxyc = 6.631 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 37720.7059

Standard deviation: 11.08462

R^2: 0.98641 Parameters: a = 114.79442 b = 771.42428

c = 60.12444

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

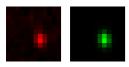
Coordinates: -162 um (x), -66.0 um (y), 59.2 um (z)

Corresponding bead: Not found

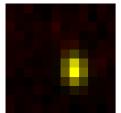
FWHM	Non corrected	Corrected	Theoretical
min	374 nm	390 nm	270 nm
max	523 nm	544 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.716		
Theta	-83.9°		

### XY profile & fitting parameters :

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



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



A = 190.022 (brightness)

B = 112.370 (background)

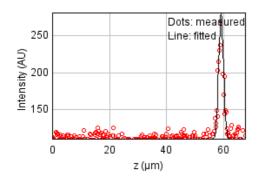
a = 0.954 px

b = -0.050 px

c = 0.497 px

xc = 7.012 pxyc = 6.715 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17784.9207

Standard deviation: 7.61126

R^2: 0.91201 Parameters: a = 110.94357

b = 280.02078

c = 59.15843

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

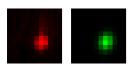
Coordinates: 25.5 um (x), -66.3 um (y), 60.2 um (z)

Corresponding bead: Not found

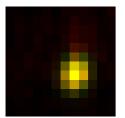
FWHM	Non corrected	Corrected	Theoretical
min	474 nm	493 nm	270 nm
max	613 nm	638 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.773		
Theta	76.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 450.064 (brightness)

B = 124.051 (background)

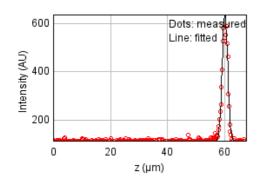
a = 0.586 px

b = 0.054 px

c = 0.370 px

xc = 7.136 pxyc = 6.804 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 49678.9999

Standard deviation: 12.72088

R^2: 0.97575 Parameters: a = 113.18973 b = 637.95100 c = 60.15014

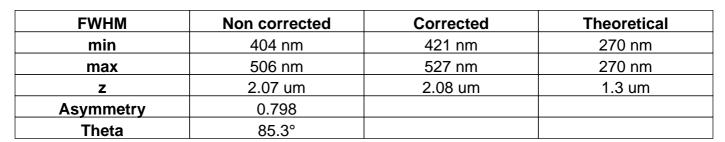
Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

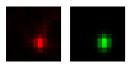
Coordinates: 60.3 um (x), -66.6 um (y), 60.3 um (z)

Corresponding bead: Not found



### XY profile & fitting parameters :

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



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



Parameters:

A = 570.402 (brightness)

B = 126.275 (background)

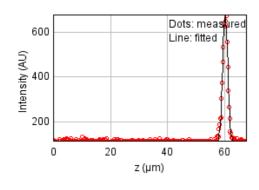
a = 0.820 px

b = 0.024 px

c = 0.526 px

xc = 6.929 pxyc = 7.419 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24857.0403

Standard deviation: 8.99820

R^2: 0.98852 Parameters: a = 113.16200 b = 676.33120

c = 60.25952

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

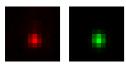
Coordinates: 3.07 um (x), -70.0 um (y), 60.3 um (z)

Corresponding bead: Not found

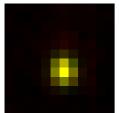
FWHM	Non corrected	Corrected	Theoretical
min	420 nm	437 nm	270 nm
max	500 nm	520 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.84		
Theta	-83.6°		

### XY profile & fitting parameters :

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



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



A = 792.662 (brightness)

B = 134.599 (background)

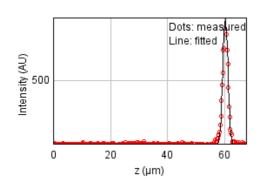
a = 0.760 px

b = -0.025 px

c = 0.541 px

xc = 5.950 pxyc = 6.823 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 40477.5801

Standard deviation: 11.48254

R^2: 0.99005 Parameters: a = 114.38015 b = 883.74919 c = 60.30005 d = 0.88534

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

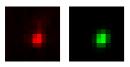
Coordinates: 57.8 um (x), -72.8 um (y), 60.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	517 nm	539 nm	270 nm
Z	2.3 um	2.31 um	1.3 um
Asymmetry	0.795		
Theta	70.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 586.679 (brightness)

B = 123.727(background)

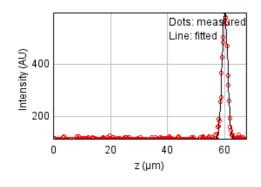
a = 0.761 px

b = 0.092 px

c = 0.534 px

xc = 6.660 pxyc = 6.596 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20764.1013

Standard deviation: 8.22408

R^2: 0.98825 Parameters: a = 112.76075

b = 596.43866

c = 60.11468

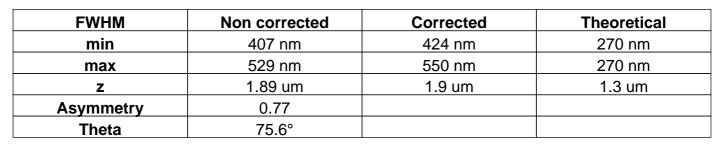
Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

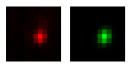
Coordinates: 38.3 um (x), -81.3 um (y), 60.6 um (z)

Corresponding bead: Not found

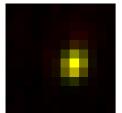


## XY profile & fitting parameters :

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



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



Parameters:

A = 704.114 (brightness)

B = 125.521 (background)

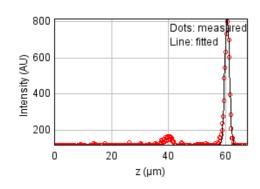
a = 0.789 px

b = 0.079 px

c = 0.501 px

xc = 7.004 pxyc = 6.109 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 61409.9412

Standard deviation: 14.14328

R^2: 0.98025 Parameters: a = 117.36570

b = 818.56843

c = 60.58724

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

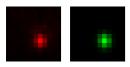
Coordinates: -47.5 um (x), -82.4 um (y), 60.2 um (z)

Corresponding bead: Not found

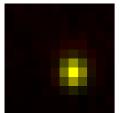
FWHM	Non corrected	Corrected	Theoretical
min	420 nm	437 nm	270 nm
max	500 nm	521 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.839		
Theta	-83.8°		

### XY profile & fitting parameters :

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



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



A = 715.798 (brightness)

B = 126.374 (background)

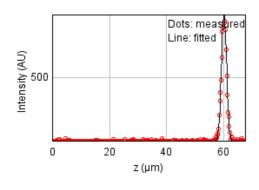
a = 0.759 px

b = -0.024 px

c = 0.538 px

xc = 7.035 pxyc = 6.998 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24295.1313

Standard deviation: 8.89591

R^2: 0.99413 Parameters: a = 114.16166 b = 890.94101 c = 60.17468 d = 0.88789

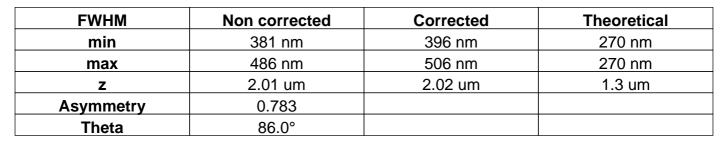
Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

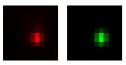
Coordinates: 2.63 um (x), -86.3 um (y), 60.6 um (z)

Corresponding bead: Not found

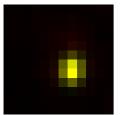


## XY profile & fitting parameters :

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



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



Parameters:

A = 890.329 (brightness)

B = 128.075 (background)

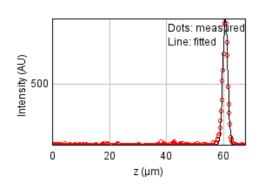
a = 0.925 px

b = 0.025 px

c = 0.570 px

xc = 6.960 pxyc = 6.624 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 41311.8196

Standard deviation: 11.60027

R^2: 0.99035 Parameters: a = 116.22787 b = 919.40033 c = 60.62266

## Bead 3638 (Rejected)

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

Coordinates: 147 um (x), -89.9 um (y), 57.3 um (z)

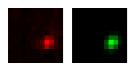
Corresponding bead: Not found

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

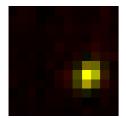
FWHM	Non corrected	Corrected	Theoretical
min	383 nm	399 nm	270 nm
max	479 nm	499 nm	270 nm
Z	3.77 um	3.78 um	1.3 um
Asymmetry	0.8		
Theta	54.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 289.669 (brightness)

B = 114.021 (background)

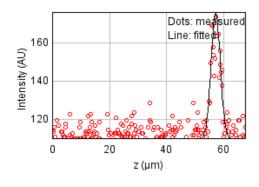
a = 0.804 px

b = 0.155 px

c = 0.694 px

xc = 8.265 pxyc = 7.077 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 18343.6547

Standard deviation: 7.72990

R^2: 0.73725 Parameters:

a = 110.06772

b = 176.09172

c = 57.28152

d = 1.59937

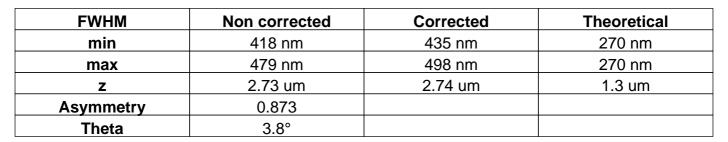
Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

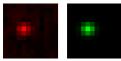
Coordinates: -158 um (x), 13.5 um (y), 6.43 um (z)

Corresponding bead: Not found



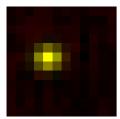
### XY profile & fitting parameters :

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





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



Parameters:

A = 190.616 (brightness)

B = 114.431(background)

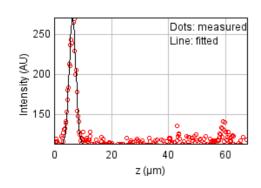
a = 0.587 px

b = 0.012 px

c = 0.769 px

xc = 4.055 pxyc = 5.094 px

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



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

Sum of residuals squared: 19827.2341

Standard deviation: 8.03641

R^2: 0.91634 Parameters: a = 113.24511b = 270.48848

c = 6.42835d = 1.16070

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

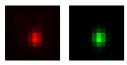
Coordinates: -156 um (x), -42.6 nm (y), 60.4 um (z)

Corresponding bead: Not found

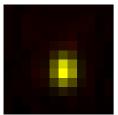
FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	548 nm	571 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.775		
Theta	88.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 501.334 (brightness)

B = 118.528 (background)

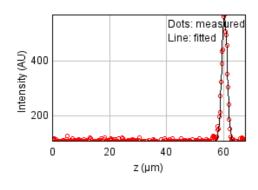
a = 0.743 px

b = 0.006 px

c = 0.446 px

xc = 6.128 pxyc = 6.694 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23132.0121

Standard deviation: 8.68036

R^2: 0.98490 Parameters: a = 110.57492 b = 566.79293 c = 60.35376

Date: Mon Oct 17 13:54:35 PDT 2022

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

Frame size: 12 pixels

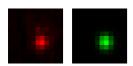
Coordinates: -117 um (x), -9.53 um (y), 60.3 um (z)

Corresponding bead: Not found

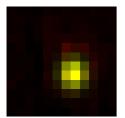
FWHM	Non corrected	Corrected	Theoretical
min	469 nm	489 nm	270 nm
max	540 nm	562 nm	270 nm
Z	1.86 um	1.87 um	1.3 um
Asymmetry	0.869		
Theta	-87.9°		

### XY profile & fitting parameters :

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



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



A = 446.186 (brightness)

B = 124.014 (background)

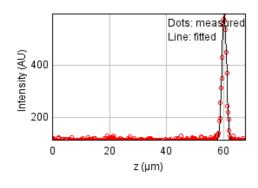
a = 0.610 px

b = -0.005 px

c = 0.460 px

xc = 6.767 pxyc = 6.825 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20972.8968

Standard deviation: 8.26533

R^2: 0.98548 Parameters: a = 113.24865 b = 595.95929 c = 60.25690

Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

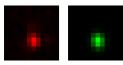
Coordinates: -147 um (x), -10.1 um (y), 60.5 um (z)

Corresponding bead: Not found

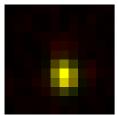
FWHM	Non corrected	Corrected	Theoretical
min	424 nm	442 nm	270 nm
max	525 nm	546 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.809		
Theta	-78.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 480.276 (brightness)

B = 125.339 (background)

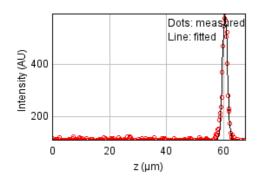
a = 0.735 px

b = -0.049 px

c = 0.497 px

xc = 6.015 pxyc = 7.271 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 27685.4231

Standard deviation: 9.49634

R^2: 0.98228 Parameters: a = 110.84001 b = 594.81136 c = 60.50550

Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

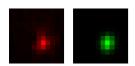
Coordinates: -123 um (x), -15.5 um (y), 60.4 um (z)

Corresponding bead: Not found

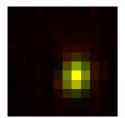
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	466 nm	270 nm
max	572 nm	596 nm	270 nm
Z	1.85 um	1.86 um	1.3 um
Asymmetry	0.781		
Theta	79.5°		

### XY profile & fitting parameters :

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



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



A = 470.760 (brightness)

B = 125.510 (background)

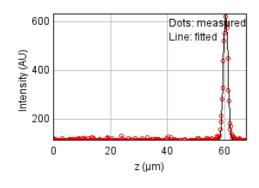
a = 0.663 px

b = 0.047 px

c = 0.419 px

xc = 6.991 pxyc = 7.085 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 19341.0864

Standard deviation: 7.93727

R^2: 0.98856 Parameters: a = 112.48804 b = 636.65489

c = 60.40420

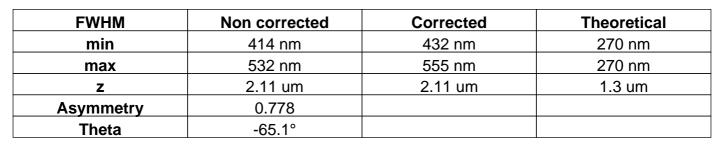
Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

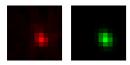
Coordinates: -127 um (x), -17.5 um (y), 60.3 um (z)

Corresponding bead: Not found

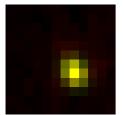


## XY profile & fitting parameters :

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



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



Parameters:

A = 421.108 (brightness)

B = 119.653 (background)

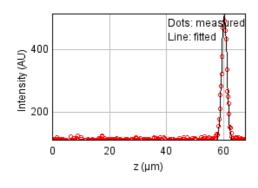
a = 0.727 px

b = -0.118 px

c = 0.528 px

xc = 6.997 pxyc = 6.865 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 19814.9205

Standard deviation: 8.03391

R^2: 0.98238 Parameters: a = 112.05117 b = 513.21640

c = 60.29694

Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

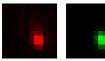
Coordinates: -129 um (x), -21.1 um (y), 60.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	416 nm	433 nm	270 nm
max	551 nm	574 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.755		
Theta	-74.0°		

## XY profile & fitting parameters :

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





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



Parameters:

A = 539.004 (brightness)

B = 122.539 (background)

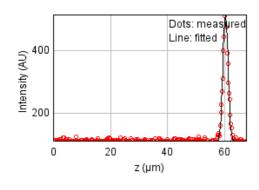
a = 0.751 px

b = -0.089 px

c = 0.468 px

xc = 7.447 pxyc = 7.428 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 18036.8533

Standard deviation: 7.66498

R^2: 0.98397 Parameters: a = 112.57515

b = 514.69390

c = 60.34754

Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

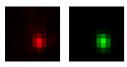
Coordinates: -110 um (x), -22.6 um (y), 60.4 um (z)

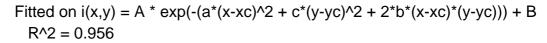
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	416 nm	433 nm	270 nm
max	534 nm	556 nm	270 nm
Z	1.99 um	2.0 um	1.3 um
Asymmetry	0.779		
Theta	-81.2°		

### XY profile & fitting parameters :

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







Parameters:

A = 485.880(brightness)

B = 120.624 (background)

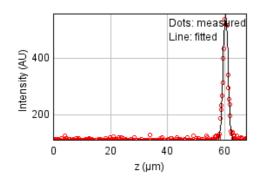
a = 0.768 px

b = -0.046 px

c = 0.478 px

xc = 6.929 pxyc = 7.256 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 30491.7246

Standard deviation: 9.96602

R^2: 0.97684 Parameters:

a = 113.13712

b = 557.40547

c = 60.37915

Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

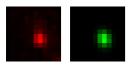
Coordinates: -115 um (x), -24.2 um (y), 60.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	564 nm	588 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.779		
Theta	-76.6°		

## XY profile & fitting parameters :

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



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



A = 379.266 (brightness)

B = 124.673 (background)

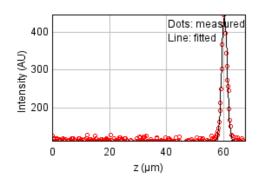
a = 0.679 px

b = -0.061 px

c = 0.436 px

xc = 6.897 pxyc = 6.564 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 21534.7470

Standard deviation: 8.37531

R^2: 0.97384 Parameters: a = 112.80712 b = 445.27457 c = 60.32714

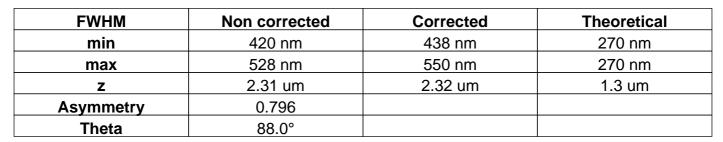
Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

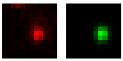
Coordinates: -114 um (x), -25.9 um (y), 60.3 um (z)

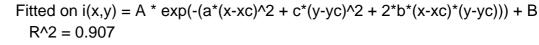
Corresponding bead: Not found

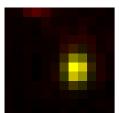


## XY profile & fitting parameters :

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







A = 523.201 (brightness)

B = 127.388 (background)

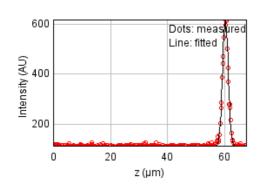
a = 0.759 px

b = 0.010 px

c = 0.482 px

xc = 7.329 pxyc = 6.177 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26250.4691

Standard deviation: 9.24697

R^2: 0.98645 Parameters: a = 111.28280 b = 616.49183

c = 60.31071

Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

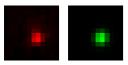
Coordinates: -118 um (x), -28.6 um (y), 60.5 um (z)

Corresponding bead: Not found

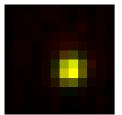
FWHM	Non corrected	Corrected	Theoretical
min	453 nm	472 nm	270 nm
max	492 nm	512 nm	270 nm
Z	1.88 um	1.88 um	1.3 um
Asymmetry	0.921		
Theta	74.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 515.829 (brightness)

B = 120.267 (background)

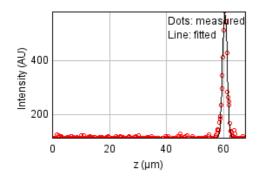
a = 0.647 px

b = 0.025 px

c = 0.562 px

xc = 6.714 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: 33278.5768

Standard deviation: 10.41150

R^2: 0.97624 Parameters: a = 111.48009 b = 582.89503

c = 60.47940

Date: Mon Oct 17 13:54:36 PDT 2022

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

Frame size: 12 pixels

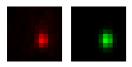
Coordinates: -104 um (x), -31.8 um (y), 60.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	560 nm	584 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.722		
Theta	-89.4°		

### 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 = 621.221 (brightness)

B = 124.034 (background)

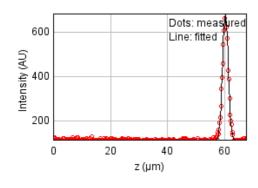
a = 0.820 px

b = -0.004 px

c = 0.427 px

xc = 7.269 pxyc = 6.840 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25094.6944

Standard deviation: 9.04111

R^2: 0.98976 Parameters: a = 112.52471 b = 680.69025 c = 60.31497 d = 0.98283

Date: Mon Oct 17 13:54:37 PDT 2022

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

Frame size: 12 pixels

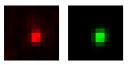
Coordinates: -99.1 um (x), -37.8 um (y), 60.4 um (z)

Corresponding bead: Not found

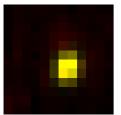
FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	521 nm	543 nm	270 nm
Z	2.27 um	2.28 um	1.3 um
Asymmetry	0.782		
Theta	78.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 604.660 (brightness)

B = 128.759 (background)

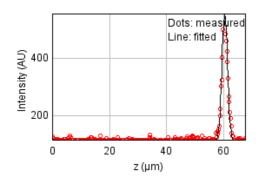
a = 0.793 px

b = 0.062 px

c = 0.507 px

xc = 6.477 pxyc = 6.364 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26115.0095

Standard deviation: 9.22308

R^2: 0.98245 Parameters:

a = 112.96625

b = 558.01913

c = 60.43954

Date: Mon Oct 17 13:54:37 PDT 2022

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

Frame size: 12 pixels

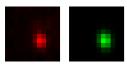
Coordinates: -101 um (x), -38.8 um (y), 60.4 um (z)

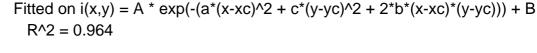
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	430 nm	447 nm	270 nm
max	582 nm	606 nm	270 nm
Z	2.46 um	2.47 um	1.3 um
Asymmetry	0.738		
Theta	-81.0°		

## XY profile & fitting parameters :

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







Parameters:

A = 451.908 (brightness)

B = 123.749 (background)

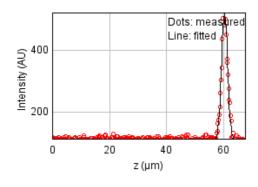
a = 0.719 px

b = -0.051 px

c = 0.404 px

xc = 7.279 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: 25202.7055

Standard deviation: 9.06055

R^2: 0.98142 Parameters: a = 112.87054 b = 522.04855

c = 60.37378

d = 1.04371

Date: Mon Oct 17 13:54:37 PDT 2022

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

Frame size: 12 pixels

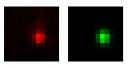
Coordinates: -47.2 um (x), -39.1 um (y), 60.2 um (z)

Corresponding bead: Not found

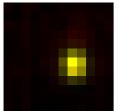
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	495 nm	516 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.826		
Theta	-88.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 526.487 (brightness)

B = 124.157 (background)

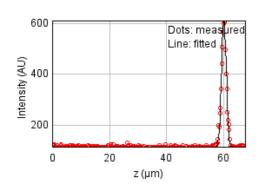
a = 0.802 px

b = -0.007 px

c = 0.547 px

xc = 7.246 pxyc = 6.260 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21005.8397

Standard deviation: 8.27182

R^2: 0.98706 Parameters:

a = 112.73402

b = 613.86322

c = 60.15503

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

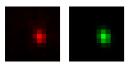
Coordinates: -52.3 um (x), -45.0 um (y), 60.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	381 nm	397 nm	270 nm
max	514 nm	536 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.741		
Theta	-77.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 647.687 (brightness)

B = 122.918 (background)

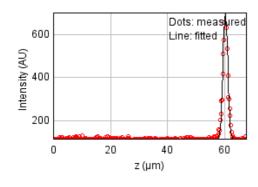
a = 0.905 px

b = -0.086 px

c = 0.526 px

xc = 7.125 pxyc = 6.129 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 35162.6090

Standard deviation: 10.70216

R^2: 0.98414 Parameters: a = 113.58055 b = 700.05536 c = 60.31326

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

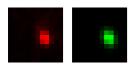
Coordinates: -72.3 um (x), -52.1 um (y), 60.5 um (z)

Corresponding bead: Not found

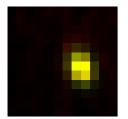
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	420 nm	270 nm
max	562 nm	585 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.718		
Theta	-72.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 535.232 (brightness)

B = 120.768 (background)

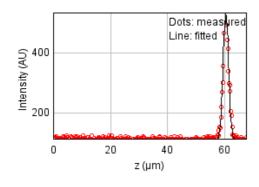
a = 0.788 px

b = -0.115 px

c = 0.462 px

xc = 7.527 pxyc = 6.165 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 30313.2602

Standard deviation: 9.93681

R^2: 0.97681 Parameters: a = 113.75316 b = 532.70689 c = 60.46694

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

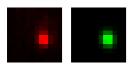
Coordinates: -83.7 um (x), -53.0 um (y), 60.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	426 nm	444 nm	270 nm
max	539 nm	561 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.791		
Theta	-82.4°		

### XY profile & fitting parameters :

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



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



A = 677.773 (brightness)

B = 123.572 (background)

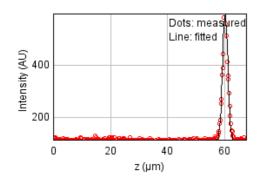
a = 0.734 px

b = -0.036 px

c = 0.468 px

xc = 7.514 pxyc = 6.408 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 31894.2933

Standard deviation: 10.19265

R^2: 0.98114 Parameters: a = 112.87256

b = 600.14849

c = 60.23958

# Bead 3657 (Rejected)

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

Coordinates: 7.66 um (x), -54.4 um (y), 58.9 um (z)

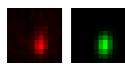
Corresponding bead: Not found

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

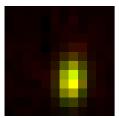
FWHM	Non corrected	Corrected	Theoretical
min	465 nm	484 nm	270 nm
max	750 nm	781 nm	270 nm
Z	2.54 um	2.55 um	1.3 um
Asymmetry	0.62		
Theta	85.1°		

## XY profile & fitting parameters :

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



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



Parameters:

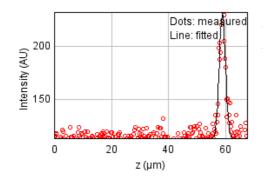
A = 262.036 (brightness) B = 122.617 (background)

a = 0.619 pxb = 0.032 px

c = 0.241 px

xc = 6.810 pxyc = 7.593 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15242.8053

Standard deviation: 7.04633

R^2: 0.88484 Parameters: a = 112.74468

b = 232.19966

c = 58.91685

d = 1.07979

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

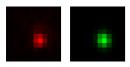
Coordinates: -79.0 um (x), -58.8 um (y), 60.8 um (z)

Corresponding bead: Not found

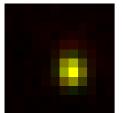
FWHM	Non corrected	Corrected	Theoretical
min	445 nm	464 nm	270 nm
max	529 nm	551 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.842		
Theta	-80.9°		

### XY profile & fitting parameters :

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



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



A = 639.097 (brightness)

B = 125.267 (background)

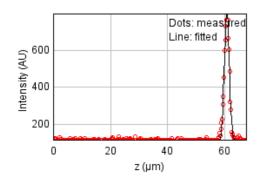
a = 0.672 px

b = -0.031 px

c = 0.485 px

xc = 6.821 pxyc = 6.843 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28255.1144

Standard deviation: 9.59355

R^2: 0.99107 Parameters: a = 112.82481 b = 804.31980

c = 60.82399

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

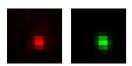
Coordinates: -42.6 um (x), -60.8 um (y), 60.6 um (z)

Corresponding bead: Not found

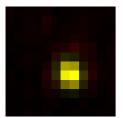
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	413 nm	270 nm
max	484 nm	504 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.82		
Theta	-74.3°		

## XY profile & fitting parameters :

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



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



A = 650.037 (brightness)

B = 123.556 (background)

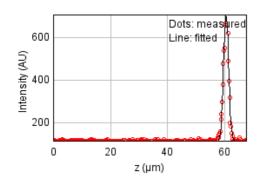
a = 0.832 px

b = -0.073 px

c = 0.593 px

xc = 6.533 pxyc = 6.885 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32208.1564

Standard deviation: 10.24268

R^2: 0.98674 Parameters: a = 113.04480 b = 707.57291 c = 60.55665

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

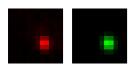
Coordinates: -47.9 um (x), -61.5 um (y), 60.6 um (z)

Corresponding bead: Not found

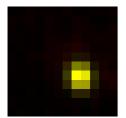
FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	485 nm	505 nm	270 nm
Z	2.13 um	2.13 um	1.3 um
Asymmetry	0.847		
Theta	-80.6°		

### XY profile & fitting parameters :

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



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



A = 681.160 (brightness)

B = 121.287 (background)

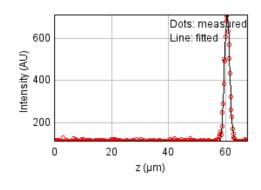
a = 0.789 px

b = -0.036 px

c = 0.576 px

xc = 7.439 pxyc = 7.135 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21406.2114

Standard deviation: 8.35027

R^2: 0.99146 Parameters: a = 111.87445

b = 710.98039

c = 60.55987

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

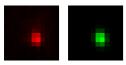
Coordinates: -36.6 um (x), -63.6 um (y), 60.5 um (z)

Corresponding bead: Not found

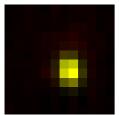
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	509 nm	531 nm	270 nm
Z	2.06 um	2.06 um	1.3 um
Asymmetry	0.759		
Theta	-82.5°		

## XY profile & fitting parameters :

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



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



A = 686.785 (brightness)

B = 127.108 (background)

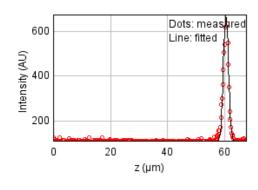
a = 0.891 px

b = -0.049 px

c = 0.523 px

xc = 6.598 pxyc = 6.708 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 30874.1909

Standard deviation: 10.02833

R^2: 0.98554 Parameters: a = 112.28099 b = 672.09797 c = 60.50738

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

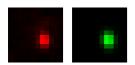
Coordinates: -30.1 um (x), -65.6 um (y), 60.2 um (z)

Corresponding bead: Not found

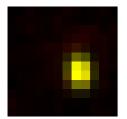
FWHM	Non corrected	Corrected	Theoretical
min	415 nm	432 nm	270 nm
max	562 nm	585 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.738		
Theta	-83.5°		

## XY profile & fitting parameters :

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



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



A = 524.954 (brightness)

B = 125.598 (background)

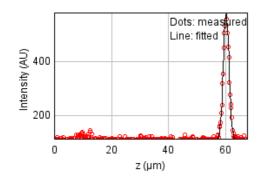
a = 0.776 px

b = -0.040 px

c = 0.430 px

xc = 7.380 pxyc = 6.593 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24412.3287

Standard deviation: 8.91734

R^2: 0.98505 Parameters: a = 114.86800 b = 578.27364 c = 60.23003

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

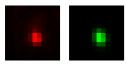
Coordinates: -35.6 um (x), -66.9 um (y), 60.4 um (z)

Corresponding bead: Not found

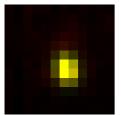
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	526 nm	548 nm	270 nm
Z	2.2 um	2.21 um	1.3 um
Asymmetry	0.762		
Theta	-78.0°		

## XY profile & fitting parameters :

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



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



A = 697.276 (brightness)

B = 126.377 (background)

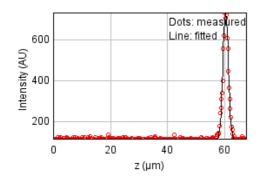
a = 0.820 px

b = -0.071 px

c = 0.500 px

xc = 6.275 pxyc = 6.553 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 29442.2903

Standard deviation: 9.79302

R^2: 0.98957 Parameters:

a = 113.09126

b = 737.61184

c = 60.39731

Date: Mon Oct 17 13:54:38 PDT 2022

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

Frame size: 12 pixels

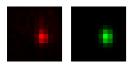
Coordinates: -32.3 um (x), -67.2 um (y), 60.4 um (z)

Corresponding bead: Not found

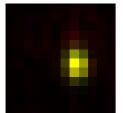
FWHM	Non corrected	Corrected	Theoretical
min	377 nm	393 nm	270 nm
max	536 nm	558 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.704		
Theta	-86.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 602.859 (brightness)

B = 123.262 (background)

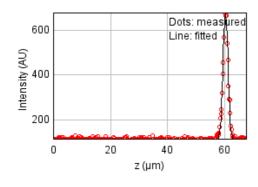
a = 0.942 px

b = -0.032 px

c = 0.470 px

xc = 7.236 pxyc = 6.112 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26616.7153

Standard deviation: 9.31125

R^2: 0.98759 Parameters: a = 114.00344 b = 680.53205 c = 60.36635

# Bead 3665 (Rejected)

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

Coordinates: -161 um (x), -76.2 um (y), 59.6 um (z)

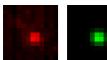
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	455 nm	474 nm	270 nm
max	482 nm	501 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.945		
Theta	-25.0°		

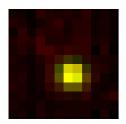
# XY profile & fitting parameters :

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





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



Parameters:

A = 170.560 (brightness)

B = 113.672 (background)

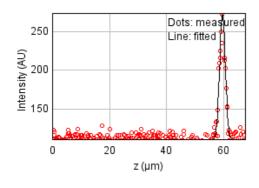
a = 0.591 px

b = -0.026 px

c = 0.635 px

xc = 6.416 pxyc = 6.669 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 18087.8573

Standard deviation: 7.67581

R^2: 0.91557 Parameters:

a = 111.31785

b = 273.04024

c = 59.63209

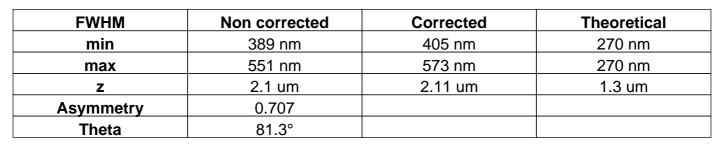
Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

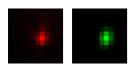
Coordinates: 13.6 um (x), -78.4 um (y), 60.6 um (z)

Corresponding bead: Not found

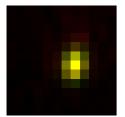


## XY profile & fitting parameters :

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



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



Parameters:

A = 547.220 (brightness)

B = 123.646 (background)

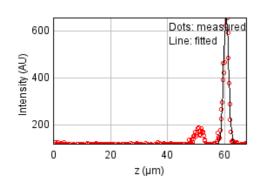
a = 0.875 px

b = 0.066 px

c = 0.453 px

xc = 6.929 pxyc = 5.939 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 100551.344

Standard deviation: 18.09776

R^2: 0.95215 Parameters: a = 116.60490 b = 656.49153 c = 60.56753

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

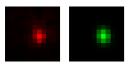
Coordinates: -104 um (x), -80.8 um (y), 60.6 um (z)

Corresponding bead: Not found

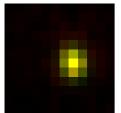
FWHM	Non corrected	Corrected	Theoretical
min	435 nm	453 nm	270 nm
max	543 nm	566 nm	270 nm
Z	2.1 um	2.1 um	1.3 um
Asymmetry	0.801		
Theta	-81.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 507.420 (brightness)

B = 124.324 (background)

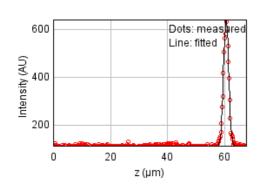
a = 0.703 px

b = -0.036 px

c = 0.460 px

xc = 7.001 pxyc = 5.937 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15862.4326

Standard deviation: 7.18813

R^2: 0.99173 Parameters: a = 112.80488 b = 640.23160

c = 60.56659

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

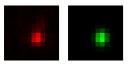
Coordinates: 32.7 um (x), -81.9 um (y), 60.4 um (z)

Corresponding bead: Not found

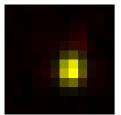
FWHM	Non corrected	Corrected	Theoretical
min	428 nm	446 nm	270 nm
max	520 nm	541 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.823		
Theta	83.5°		

### 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 = 616.233 (brightness)

B = 124.598 (background)

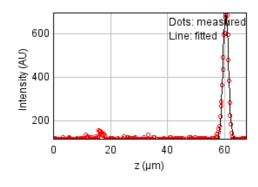
a = 0.730 px

b = 0.027 px

c = 0.500 px

xc = 6.764 pxyc = 6.620 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 38498.1794

Standard deviation: 11.19827

R^2: 0.98477 Parameters: a = 114.73112 b = 699.50009 c = 60.43817

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

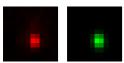
Coordinates: -17.9 um (x), -82.8 um (y), 60.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	380 nm	395 nm	270 nm
max	508 nm	529 nm	270 nm
Z	2.21 um	2.22 um	1.3 um
Asymmetry	0.747		
Theta	-84.9°		

### XY profile & fitting parameters :

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



$$R^2 = 0.968$$



Parameters:

A = 707.366 (brightness)

B = 127.003 (background)

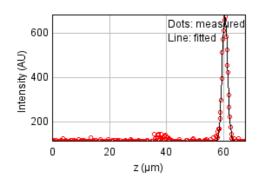
a = 0.927 px

b = -0.036 px

c = 0.523 px

xc = 6.412 pxyc = 7.034 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 31263.3399

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

Standard deviation: 10.09133

R^2: 0.98673 Parameters: a = 114.84180 b = 682.84797

c = 60.48327

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

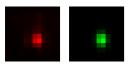
Coordinates: 8.72 um (x), -82.6 um (y), 60.6 um (z)

Corresponding bead: Not found

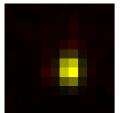
FWHM	Non corrected	Corrected	Theoretical
min	366 nm	381 nm	270 nm
max	495 nm	515 nm	270 nm
Z	2.1 um	2.1 um	1.3 um
Asymmetry	0.739		
Theta	-88.3°		

## XY profile & fitting parameters :

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



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



A = 725.251 (brightness)

B = 126.243 (background)

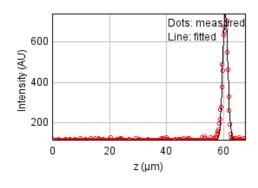
a = 1.002 px

b = -0.013 px

c = 0.549 px

xc = 6.624 pxyc = 6.756 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 51607.7029

Standard deviation: 12.96546

R^2: 0.98143 Parameters: a = 112.83320 b = 744.36179 c = 60.62002

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

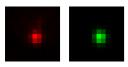
Coordinates: -5.66 um (x), -83.3 um (y), 60.7 um (z)

Corresponding bead: Not found

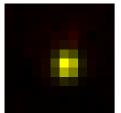
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	461 nm	480 nm	270 nm
Z	1.99 um	1.99 um	1.3 um
Asymmetry	0.87		
Theta	88.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 840.033 (brightness)

B = 127.386 (background)

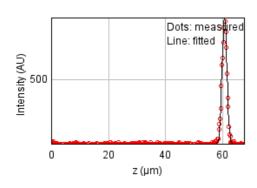
a = 0.835 px

b = 0.004 px

c = 0.631 px

xc = 6.274 pxyc = 6.202 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 30699.7911

Standard deviation: 9.99997

R^2: 0.99172 Parameters: a = 113.60804 b = 866.05514 c = 60.70862 d = 0.84318

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

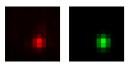
Coordinates: -1.11 um (x), -83.6 um (y), 60.8 um (z)

Corresponding bead: Not found

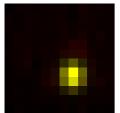
FWHM	Non corrected	Corrected	Theoretical
min	398 nm	414 nm	270 nm
max	461 nm	480 nm	270 nm
Z	1.9 um	1.9 um	1.3 um
Asymmetry	0.862		
Theta	88.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 778.320 (brightness)

B = 126.872 (background)

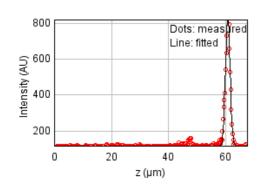
a = 0.848 px

b = 0.005 px

c = 0.631 px

xc = 6.946 pxyc = 7.356 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 49787.3238

Standard deviation: 12.73474

R^2: 0.98419 Parameters:

a = 115.89860

b = 822.43703

c = 60.81068

# Bead 3673 (Rejected)

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

Coordinates: 4.41 um (x), -88.0 um (y), 60.7 um (z)

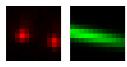
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

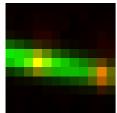
FWHM	Non corrected	Corrected	Theoretical
min	482 nm	502 nm	270 nm
max	3.67 um	3.83 um	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.131		
Theta	-10.7°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.437$$



A = 177.772 (brightness)

B = 135.164 (background)

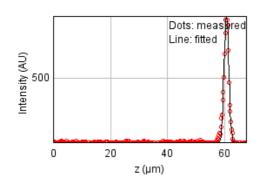
a = 0.011 px

b = -0.108 px

c = 0.558 px

xc = 2.043 pxyc = 5.700 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 44729.5508

Standard deviation: 12.07058

R^2: 0.98795 Parameters:

a = 113.59311

b = 873.09387

c = 60.68694

# Bead 3674 (Rejected)

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

Coordinates: -22.2 um (x), -90.5 um (y), 59.8 um (z)

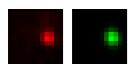
Corresponding bead: Not found

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

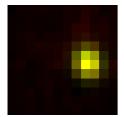
FWHM	Non corrected	Corrected	Theoretical
min	478 nm	498 nm	270 nm
max	567 nm	590 nm	270 nm
Z	4.06 um	4.07 um	1.3 um
Asymmetry	0.843		
Theta	-75.9°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 422.356 (brightness)

B = 123.089 (background)

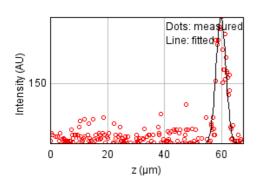
a = 0.577 px

b = -0.040 px

c = 0.428 px

xc = 8.279 pxyc = 5.761 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19062.9482

Standard deviation: 7.87999

R^2: 0.80830 Parameters:

a = 112.19126

b = 191.96364

c = 59.80339

Date: Mon Oct 17 13:54:39 PDT 2022

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

Frame size: 12 pixels

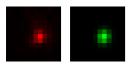
Coordinates: -97.3 um (x), -91.7 um (y), 60.4 um (z)

Corresponding bead: Not found

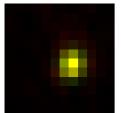
FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	506 nm	527 nm	270 nm
Z	1.96 um	1.97 um	1.3 um
Asymmetry	0.84		
Theta	78.5°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 543.727 (brightness)

B = 124.127 (background)

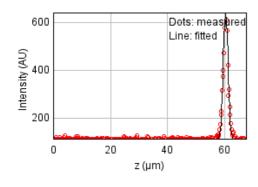
a = 0.734 px

b = 0.043 px

c = 0.532 px

xc = 6.848 pxyc = 6.122 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 35366.7588

Standard deviation: 10.73318

R^2: 0.98055 Parameters: a = 114.01926 b = 641.51453

3 – 011.0110

c = 60.40794

# Bead 3676 (Rejected)

Date: Mon Oct 17 13:54:40 PDT 2022

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

Frame size: 12 pixels

Coordinates: 94.2 um (x), -92.2 um (y), 56.6 um (z)

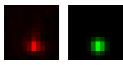
Corresponding bead: Not found

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

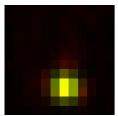
FWHM	Non corrected	Corrected	Theoretical
min	467 nm	486 nm	270 nm
max	476 nm	496 nm	270 nm
Z	3.65 um	3.66 um	1.3 um
Asymmetry	0.981		
Theta	-60.1°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.921$$



Parameters:

A = 466.614 (brightness)

B = 122.163 (background)

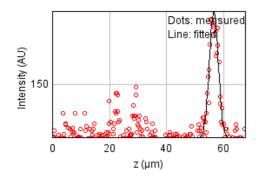
a = 0.610 px

b = -0.010 px

c = 0.598 px

xc = 6.126 pxyc = 8.483 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 22837.9865

Standard deviation: 8.62501

R^2: 0.78284

Parameters:

a = 114.12888

b = 198.85894

c = 56.62101

# Bead 3677 (Rejected)

Date: Mon Oct 17 13:54:40 PDT 2022

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

Frame size: 12 pixels

Coordinates: 112 um (x), 73.8 um (y), 57.2 um (z)

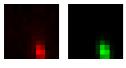
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	366 nm	381 nm	270 nm
max	642 nm	669 nm	270 nm
Z	3.27 um	3.29 um	1.3 um
Asymmetry	0.57		
Theta	-76.2°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 558.942 (brightness) B = 126.211 (background)

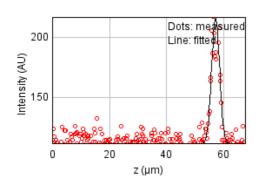
a = 0.964 px

b = -0.157 px

c = 0.364 px

xc = 7.399 pxyc = 9.953 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19470.0766

Standard deviation: 7.96370

R^2: 0.85270 Parameters:

a = 112.08714

b = 216.25831

c = 57.23355

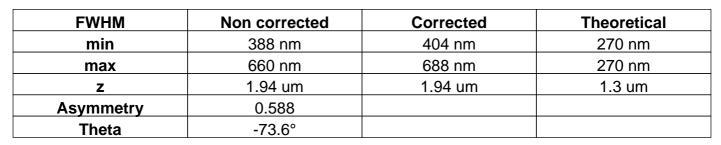
Date: Mon Oct 17 13:54:40 PDT 2022

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

Frame size: 12 pixels

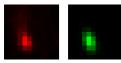
Coordinates: 158 um (x), 67.3 um (y), 57.1 um (z)

Corresponding bead: Not found

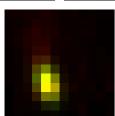


#### XY profile & fitting parameters :

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



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



Parameters:

A = 544.910 (brightness)

B = 123.085 (background)

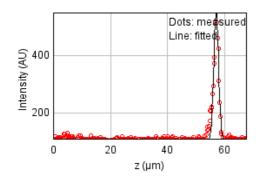
a = 0.845 px

b = -0.158 px

c = 0.354 px

xc = 4.167 pxyc = 7.527 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 47025.1031

Standard deviation: 12.37644

R^2: 0.96267 Parameters:

a = 111.66435

b = 549.08080

c = 57.09060

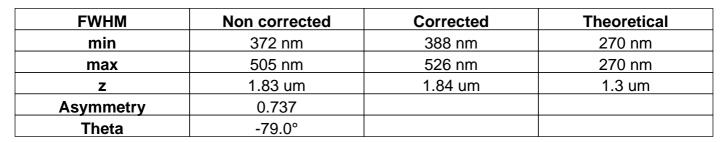
Date: Mon Oct 17 13:54:40 PDT 2022

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

Frame size: 12 pixels

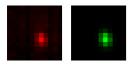
Coordinates: -161 um (x), 40.8 um (y), 59.7 um (z)

Corresponding bead : Not found

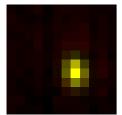


#### XY profile & fitting parameters :

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



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



Parameters:

A = 265.686 (brightness)

B = 114.879 (background)

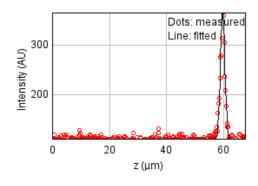
a = 0.953 px

b = -0.083 px

c = 0.543 px

xc = 7.009 pxyc = 6.856 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 16199.0747

Standard deviation: 7.26400

R^2: 0.96033 Parameters: a = 111.06741 b = 366.51910 c = 59.69925

# Bead 3680 (Rejected)

Date: Mon Oct 17 13:54:40 PDT 2022

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

Frame size: 12 pixels

Coordinates: -157 um (x), 5.33 um (y), 60.2 um (z)

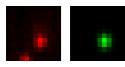
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

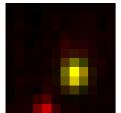
FWHM	Non corrected	Corrected	Theoretical
min	419 nm	437 nm	270 nm
max	509 nm	530 nm	270 nm
Z	1.93 um	1.93 um	1.3 um
Asymmetry	0.824		
Theta	87.3°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.710$$



Parameters:

A = 394.210 (brightness)

B = 129.603 (background)

a = 0.762 px

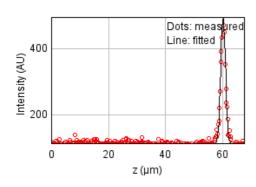
b = 0.012 px

c = 0.519 px

xc = 7.063 px

# yc = 7.254 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22496.4614

Standard deviation: 8.56028

R^2: 0.97661 Parameters:

a = 111.19493

b = 497.13300

c = 60.21510

Date: Mon Oct 17 13:54:40 PDT 2022

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

Frame size: 12 pixels

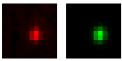
Coordinates: -156 um (x), -6.13 um (y), 60.4 um (z)

Corresponding bead: Not found

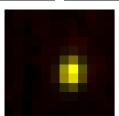
FWHM	Non corrected	Corrected	Theoretical
min	402 nm	419 nm	270 nm
max	516 nm	537 nm	270 nm
Z	1.86 um	1.87 um	1.3 um
Asymmetry	0.779		
Theta	84.2°		

#### 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 = 420.124 (brightness)

B = 118.984 (background)

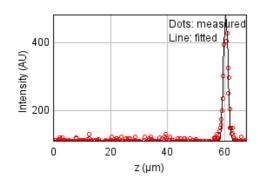
a = 0.828 px

b = 0.033 px

c = 0.507 px

xc = 6.810 pxyc = 6.347 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 30417.7095

Standard deviation: 9.95392

R^2: 0.96534 Parameters: a = 111.10674 b = 483.65410

D = +00.00+10

c = 60.43463

Date: Mon Oct 17 13:54:41 PDT 2022

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

Frame size: 12 pixels

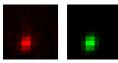
Coordinates: -134 um (x), -6.69 um (y), 57.1 um (z)

Corresponding bead: Not found

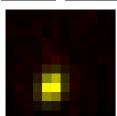
FWHM	Non corrected	Corrected	Theoretical
min	396 nm	412 nm	270 nm
max	517 nm	539 nm	270 nm
Z	2.16 um	2.17 um	1.3 um
Asymmetry	0.765		
Theta	71.2°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 381.456 (brightness)

B = 118.696 (background)

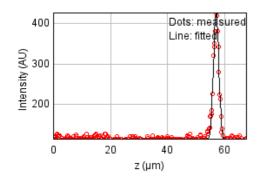
a = 0.819 px

b = 0.108 px

c = 0.538 px

xc = 4.541 pxyc = 7.930 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19220.8203

Standard deviation: 7.91256

R^2: 0.97335 Parameters: a = 112.96371 b = 429.03864 c = 57.08396

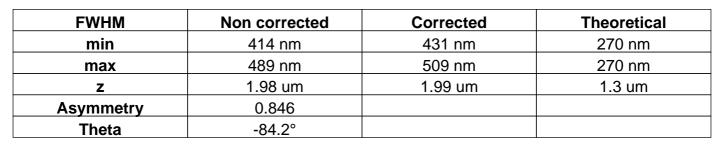
Date: Mon Oct 17 13:54:41 PDT 2022

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

Frame size: 12 pixels

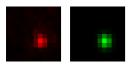
Coordinates: -144 um (x), -15.1 um (y), 60.6 um (z)

Corresponding bead: Not found

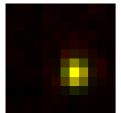


#### XY profile & fitting parameters :

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



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



A = 401.596 (brightness)

B = 118.989 (background)

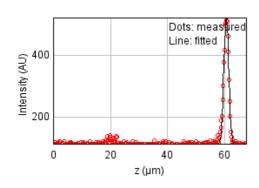
a = 0.781 px

b = -0.022 px

c = 0.563 px

xc = 7.137 pxyc = 7.105 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22680.9920

Standard deviation: 8.59532

R^2: 0.97962 Parameters:

a = 112.77171

b = 522.76866

c = 60.63432

Date: Mon Oct 17 13:54:41 PDT 2022

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

Frame size: 12 pixels

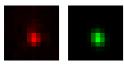
Coordinates: -120 um (x), -17.9 um (y), 60.4 um (z)

Corresponding bead: Not found

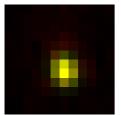
FWHM	Non corrected	Corrected	Theoretical
min	432 nm	450 nm	270 nm
max	534 nm	556 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.808		
Theta	-74.9°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 477.002 (brightness)

B = 122.623 (background)

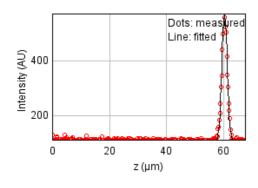
a = 0.702 px

b = -0.063 px

c = 0.487 px

xc = 6.041 pxyc = 6.688 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15270.8246

Standard deviation: 7.05281

R^2: 0.99002 Parameters: a = 111.68729 b = 573.73097 c = 60.37140

Date: Mon Oct 17 13:54:41 PDT 2022

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

Frame size: 12 pixels

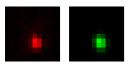
Coordinates: -155 um (x), -21.3 um (y), 60.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	396 nm	412 nm	270 nm
max	497 nm	518 nm	270 nm
Z	1.99 um	1.99 um	1.3 um
Asymmetry	0.797		
Theta	-77.3°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 763.238 (brightness)

B = 126.825 (background)

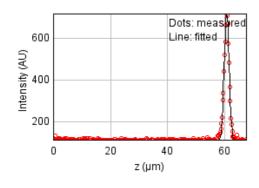
a = 0.841 px

b = -0.067 px

c = 0.558 px

xc = 6.322 pxyc = 7.412 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22179.4992

Standard deviation: 8.49976

R^2: 0.99081 Parameters:

a = 111.72784

b = 718.50426

c = 60.76587

# Bead 3686 (Rejected)

Date: Mon Oct 17 13:54:41 PDT 2022

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

Frame size: 12 pixels

Coordinates: 84.1 um (x), -21.7 um (y), 59.6 um (z)

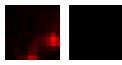
Corresponding bead: Not found

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

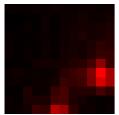
FWHM	Non corrected	Corrected	Theoretical
min	2.18 um	2.27 um	270 nm
max	6.08 um	6.33 um	270 nm
Z	3.81 um	3.83 um	1.3 um
Asymmetry	0.359		
Theta	0.0°		

# XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.340$ 



Parameters:

A = -119.728 (brightness)

B = 231.510 (background)

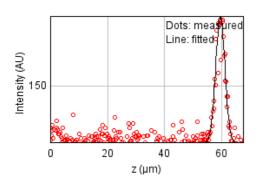
a = 0.013 px

b = 0.016 px

c = 0.012 px

xc = 3.234 pxyc = 2.304 px

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

Date: Mon Oct 17 13:54:41 PDT 2022

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

Frame size: 12 pixels

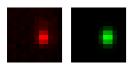
Coordinates: -111 um (x), -25.9 um (y), 60.3 um (z)

Corresponding bead: Not found

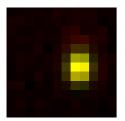
FWHM	Non corrected	Corrected	Theoretical
min	417 nm	435 nm	270 nm
max	554 nm	577 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.753		
Theta	89.4°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 432.253 (brightness)

B = 120.968 (background)

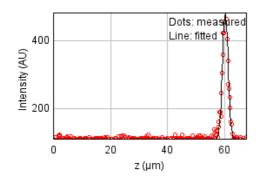
a = 0.770 px

b = 0.003 px

c = 0.437 px

xc = 7.454 pxyc = 6.007 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18685.1450

Standard deviation: 7.80152

R^2: 0.98193 Parameters:

a = 112.23634

b = 479.90166

c = 60.28514

# Bead 3688 (Rejected)

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: -137 um (x), -36.7 um (y), 60.9 um (z)

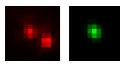
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

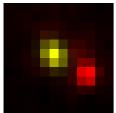
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	503 nm	523 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.799		
Theta	-59.8°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.367$$



Parameters:

A = 497.701 (brightness)

B = 154.251 (background)

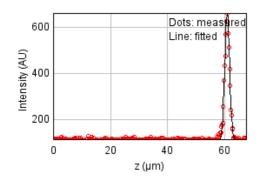
a = 0.756 px

b = -0.131 px

c = 0.608 px

xc = 4.994 pxyc = 5.139 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19913.5776

Standard deviation: 8.05389

R^2: 0.98972 Parameters:

a = 111.95036

b = 659.44617

c = 60.94854

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

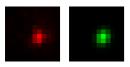
Coordinates: -147 um (x), -37.1 um (y), 61.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	441 nm	460 nm	270 nm
max	542 nm	565 nm	270 nm
Z	1.91 um	1.92 um	1.3 um
Asymmetry	0.814		
Theta	69.4°		

#### XY profile & fitting parameters :

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



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



A = 641.629 (brightness)

B = 120.760 (background)

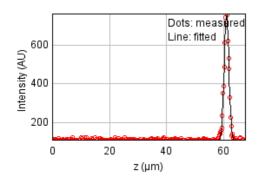
a = 0.660 px

b = 0.077 px

c = 0.485 px

xc = 6.881 pxyc = 6.240 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25498.0225

Standard deviation: 9.11348

R^2: 0.99050 Parameters: a = 111.51963 b = 762.94497

c = 61.07896

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

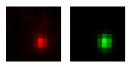
Coordinates: -105 um (x), -39.1 um (y), 60.6 um (z)

Corresponding bead: Not found

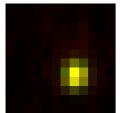
FWHM	Non corrected	Corrected	Theoretical
min	423 nm	441 nm	270 nm
max	514 nm	535 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.823		
Theta	85.7°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 462.677 (brightness)

B = 124.233 (background)

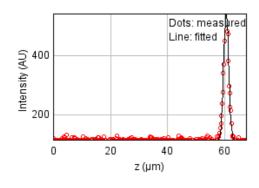
a = 0.748 px

b = 0.018 px

c = 0.510 px

xc = 7.146 pxyc = 7.322 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18610.8331

Standard deviation: 7.78599

R^2: 0.98516 Parameters: a = 113.13867

b = 542.48010

c = 60.58927

# Bead 3691 (Rejected)

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: 63.3 um (x), -41.1 um (y), 56.9 um (z)

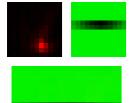
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	142 nm	148 nm	270 nm
max	1.97 um	2.05 um	270 nm
Z	3.35 um	3.37 um	1.3 um
Asymmetry	0.072		
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 = -74.366 (brightness) B = 153.779 (background)

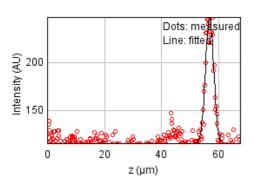
a = -0.035 px

b = -0.000 px

c = 6.689 px

xc = 5.797 pxyc = 4.483 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22536.5977

Standard deviation: 8.56791

R^2: 0.89439 Parameters:

a = 114.60197

b = 248.65196

c = 56.88460

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

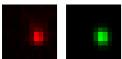
Coordinates: -109 um (x), -46.9 um (y), 60.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	443 nm	461 nm	270 nm
max	555 nm	578 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.798		
Theta	-84.5°		

#### XY profile & fitting parameters :

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





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



Parameters:

A = 495.626 (brightness)

B = 121.572 (background)

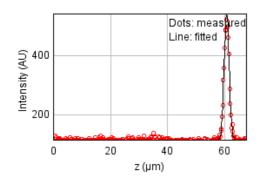
a = 0.682 px

b = -0.024 px

c = 0.439 px

xc = 7.330 pxyc = 6.582 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16672.1921

Standard deviation: 7.36932

R^2: 0.98660 Parameters: a = 113.30837

b = 542.16986

c = 60.75798

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

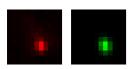
Coordinates: -56.1 um (x), -49.0 um (y), 60.6 um (z)

Corresponding bead: Not found

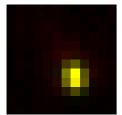
FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	493 nm	514 nm	270 nm
Z	1.77 um	1.78 um	1.3 um
Asymmetry	0.766		
Theta	-77.9°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 503.587 (brightness)

B = 122.978 (background)

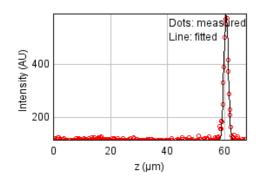
a = 0.923 px

b = -0.080 px

c = 0.569 px

xc = 6.916 pxyc = 7.411 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22820.4310

Standard deviation: 8.62170

R^2: 0.98330 Parameters:

a = 113.53600

b = 593.96818

c = 60.56795

# Bead 3694 (Rejected)

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: 52.6 um (x), -55.5 um (y), 56.9 um (z)

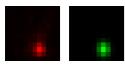
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	506 nm	527 nm	270 nm
Z	3.99 um	4.01 um	1.3 um
Asymmetry	0.807		
Theta	-87.7°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 692.320 (brightness)

B = 125.113 (background)

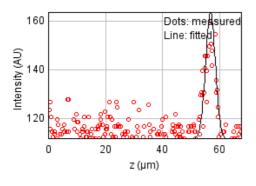
a = 0.806 px

b = -0.011 px

c = 0.525 px

xc = 7.033 pxyc = 8.939 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 15210.4639

Standard deviation: 7.03886

R^2: 0.68595 Parameters:

a = 111.95851

b = 163.62808

c = 56.85447

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

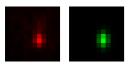
Coordinates: -13.9 um (x), -56.6 um (y), 60.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	351 nm	366 nm	270 nm
max	535 nm	558 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.656		
Theta	-90.0°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 396.850 (brightness)

B = 122.305 (background)

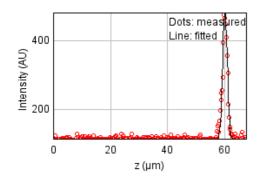
a = 1.087 px

b = -0.000 px

c = 0.468 px

xc = 6.960 pxyc = 6.764 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25252.3133

Standard deviation: 9.06946

R^2: 0.97163 Parameters: a = 113.43952

b = 483.49758

c = 60.17983

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

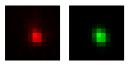
Coordinates: -117 um (x), -66.6 um (y), 61.1 um (z)

Corresponding bead: Not found

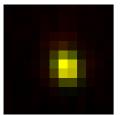
FWHM	Non corrected	Corrected	Theoretical
min	441 nm	459 nm	270 nm
max	558 nm	581 nm	270 nm
Z	2.26 um	2.27 um	1.3 um
Asymmetry	0.791		
Theta	-72.1°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 960.273 (brightness)

B = 131.401 (background)

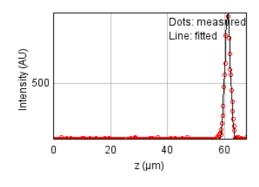
a = 0.665 px

b = -0.076 px

c = 0.456 px

xc = 6.334 pxyc = 6.300 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 55226.1724

Standard deviation: 13.41230

R^2: 0.99032 Parameters: a = 112.99820 b = 990.76881

c = 61.11162

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

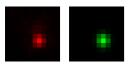
Coordinates: -58.8 um (x), -70.9 um (y), 60.9 um (z)

Corresponding bead: Not found

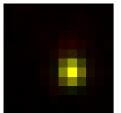
FWHM	Non corrected	Corrected	Theoretical
min	416 nm	433 nm	270 nm
max	482 nm	502 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.863		
Theta	-86.1°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 949.697 (brightness)

B = 130.441 (background)

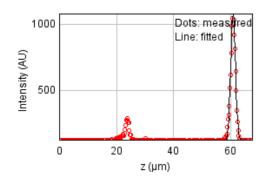
a = 0.776 px

b = -0.013 px

c = 0.580 px

xc = 6.928 pxyc = 6.935 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 192688.991

Standard deviation: 25.05297

R^2: 0.96799 Parameters: a = 120.37820

b = 1082.52645

c = 60.92084

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

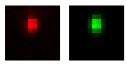
Coordinates: -54.9 um (x), -75.7 um (y), 55.7 um (z)

Corresponding bead: Not found

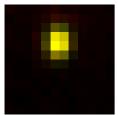
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	545 nm	567 nm	270 nm
Z	2.21 um	2.22 um	1.3 um
Asymmetry	0.761		
Theta	88.8°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 666.895 (brightness)

B = 122.868 (background)

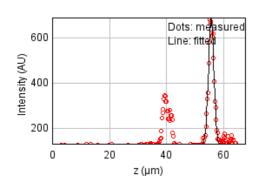
a = 0.782 px

b = 0.007 px

c = 0.453 px

xc = 5.395 pxyc = 3.636 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 502622.607

Standard deviation: 40.46242

R^2: 0.81620 Parameters: a = 129.34087 b = 686.92695 c = 55.68037

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

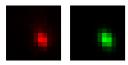
Coordinates: -77.8 um (x), -82.8 um (y), 61.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	421 nm	438 nm	270 nm
max	594 nm	619 nm	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.708		
Theta	-64.7°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 1011.571 (brightness)

B = 127.319 (background)

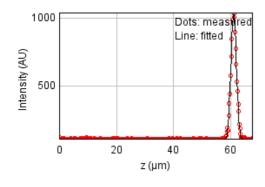
a = 0.689 px

b = -0.147 px

c = 0.450 px

xc = 7.375 pxyc = 6.929 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27427.9333

Standard deviation: 9.45208

R^2: 0.99557 Parameters: a = 112.52358 b = 1036.48869

c = 61.12614

Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

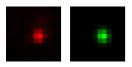
Coordinates: -19.9 um (x), -85.5 um (y), 60.9 um (z)

Corresponding bead: Not found

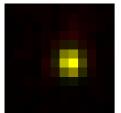
FWHM	Non corrected	Corrected	Theoretical
min	413 nm	430 nm	270 nm
max	469 nm	488 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.881		
Theta	-79.3°		

#### XY profile & fitting parameters :

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



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



A = 663.617 (brightness)

B = 123.844 (background)

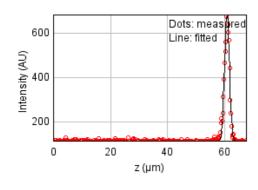
a = 0.780 px

b = -0.032 px

c = 0.616 px

xc = 6.687 pxyc = 5.927 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36997.6370

Standard deviation: 10.97786

R^2: 0.98299 Parameters:

a = 113.27813

b = 683.74451

c = 60.88919