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

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

Frame size: 12 pixels

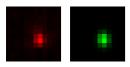
Coordinates: -130 um (x), -88.3 um (y), 60.3 um (z)

Corresponding bead: Not found

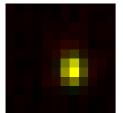
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	408 nm	270 nm
max	506 nm	527 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.775		
Theta	-86.5°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 442.444 (brightness)

B = 119.703 (background)

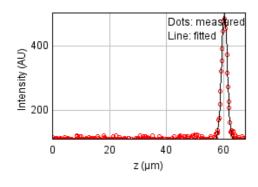
a = 0.871 px

b = -0.021 px

c = 0.526 px

xc = 6.812 pxyc = 6.726 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16415.9785

Standard deviation: 7.31247

R^2: 0.98577 Parameters: a = 111.95098 b = 501.22949

c = 60.32725

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

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

Frame size: 12 pixels

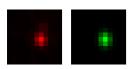
Coordinates: 14.9 um (x), -89.2 um (y), 60.8 um (z)

Corresponding bead: Not found

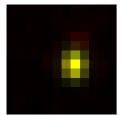
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	414 nm	270 nm
max	515 nm	537 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.771		
Theta	89.7°		

#### XY profile & fitting parameters :

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



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



A = 811.404 (brightness)

B = 123.227 (background)

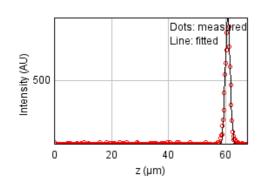
a = 0.851 px

b = 0.002 px

c = 0.505 px

xc = 6.910 pxyc = 6.062 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 33106.5403

Standard deviation: 10.38455

R^2: 0.99145 Parameters: a = 114.15514 b = 883.64028 c = 60.78697 d = 0.84224

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

Frame size: 12 pixels

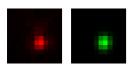
Coordinates: -32.8 um (x), -90.3 um (y), 61.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	444 nm	462 nm	270 nm
max	522 nm	543 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.851		
Theta	83.3°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 813.377 (brightness)

B = 133.304 (background)

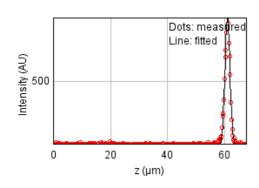
a = 0.678 px

b = 0.022 px

c = 0.496 px

xc = 6.705 pxyc = 6.943 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28390.7823

Standard deviation: 9.61655

R^2: 0.99311 Parameters: a = 113.74886 b = 902.51732

c = 61.05068

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

Frame size: 12 pixels

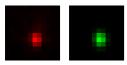
Coordinates: -14.5 um (x), -92.3 um (y), 60.8 um (z)

Corresponding bead: Not found

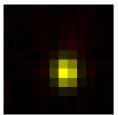
FWHM	Non corrected	Corrected	Theoretical
min	406 nm	422 nm	270 nm
max	510 nm	531 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.795		
Theta	-87.2°		

#### XY profile & fitting parameters :

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



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



A = 738.933 (brightness)

B = 126.221 (background)

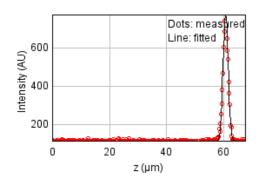
a = 0.815 px

b = -0.015 px

c = 0.516 px

xc = 6.304 pxyc = 6.887 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 24250.9309

Standard deviation: 8.88782

R^2: 0.99200 Parameters:

a = 112.19642

b = 776.32125

c = 60.75578

# Bead 3705 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: 103 um (x), 86.6 um (y), 57.5 um (z)

Corresponding bead: Not found

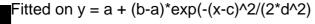
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.02 um	3.03 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

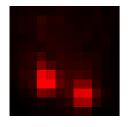
## XY profile & fitting parameters :

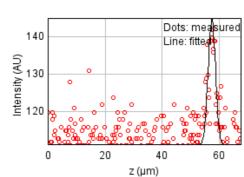
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





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

Sum of residuals squared: 12797.7923

Standard deviation: 6.45652

R^2: 0.46107 Parameters:

a = 111.23508

b = 144.93025

c = 57.46951

# Bead 3706 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: 95.1 um (x), 61.3 um (y), 57.8 um (z)

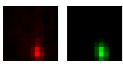
Corresponding bead: Not found

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

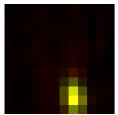
FWHM	Non corrected	Corrected	Theoretical
min	355 nm	369 nm	270 nm
max	576 nm	600 nm	270 nm
Z	2.82 um	2.83 um	1.3 um
Asymmetry	0.616		
Theta	-81.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 441.924 (brightness)

B = 123.112 (background)

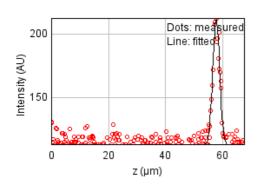
a = 1.054 px

b = -0.095 px

c = 0.419 px

xc = 7.077 pxyc = 9.683 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 11146.5989

Standard deviation: 6.02562

R^2: 0.89091 Parameters:

a = 112.45722

b = 212.77079

c = 57.79628

# Bead 3707 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -158 um (x), 4.44 um (y), 60.5 um (z)

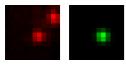
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

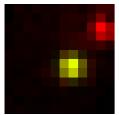
FWHM	Non corrected	Corrected	Theoretical
min	415 nm	432 nm	270 nm
max	423 nm	441 nm	270 nm
Z	1.99 um	2.0 um	1.3 um
Asymmetry	0.981		
Theta	-47.9°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.403$$



A = 338.502 (brightness)

B = 135.026 (background)

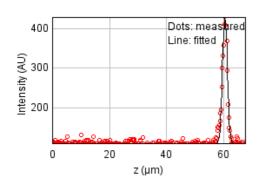
a = 0.766 px

b = -0.014 px

c = 0.763 px

xc = 6.817 pxyc = 6.329 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 23866.0905

Standard deviation: 8.81701

R^2: 0.96475 Parameters:

a = 111.08729

b = 427.76841

c = 60.49233

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

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

Frame size: 12 pixels

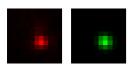
Coordinates: -150 um (x), -27.3 um (y), 60.9 um (z)

Corresponding bead: Not found

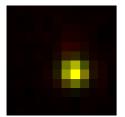
FWHM	Non corrected	Corrected	Theoretical
min	451 nm	470 nm	270 nm
max	481 nm	501 nm	270 nm
Z	1.97 um	1.97 um	1.3 um
Asymmetry	0.937		
Theta	-53.6°		

#### 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 = 609.941 (brightness)

B = 120.643 (background)

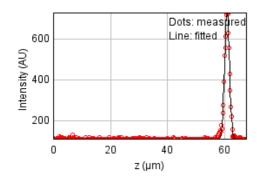
a = 0.631 px

b = -0.039 px

c = 0.608 px

xc = 6.888 pxyc = 6.781 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21451.2893

Standard deviation: 8.35906

R^2: 0.99131 Parameters: a = 112.04168

b = 728.75662

c = 60.90485

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

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

Frame size: 12 pixels

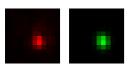
Coordinates: -147 um (x), -32.8 um (y), 61.0 um (z)

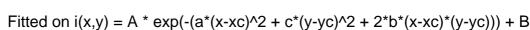
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	418 nm	435 nm	270 nm
max	520 nm	542 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.804		
Theta	-81.5°		

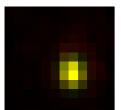
## XY profile & fitting parameters :

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





 $R^2 = 0.955$ 



Parameters:

A = 736.062 (brightness)

B = 125.390 (background)

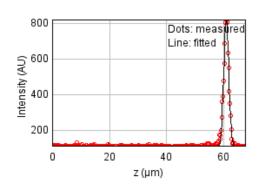
a = 0.762 px

b = -0.040 px

c = 0.502 px

xc = 6.861 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: 29377.5345

Standard deviation: 9.78224

R^2: 0.99130 Parameters: a = 111.83097 b = 821.07421

c = 60.99039

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

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

Frame size: 12 pixels

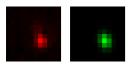
Coordinates: -122 um (x), -33.3 um (y), 60.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	395 nm	411 nm	270 nm
max	550 nm	572 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.718		
Theta	-73.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 472.689 (brightness)

B = 121.880 (background)

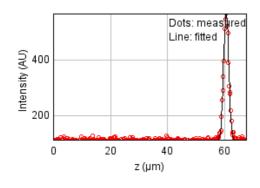
a = 0.829 px

b = -0.111 px

c = 0.477 px

xc = 7.138 pxyc = 7.004 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21589.6044

Standard deviation: 8.38597

R^2: 0.98499 Parameters: a = 112.01229

b = 567.02593

c = 60.59642

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

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

Frame size: 12 pixels

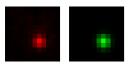
Coordinates: -53.0 um (x), -56.7 um (y), 60.6 um (z)

Corresponding bead: Not found

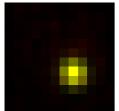
FWHM	Non corrected	Corrected	Theoretical
min	450 nm	469 nm	270 nm
max	482 nm	502 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.934		
Theta	-76.7°		

#### XY profile & fitting parameters :

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



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



A = 506.943 (brightness)

B = 120.553 (background)

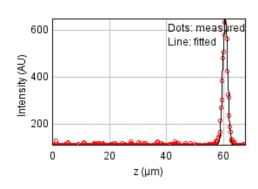
a = 0.658 px

b = -0.019 px

c = 0.583 px

xc = 7.041 pxyc = 7.182 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27016.8660

Standard deviation: 9.38098

R^2: 0.98588 Parameters: a = 113.48040

b = 650.37828

c = 60.60156

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

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

Frame size: 12 pixels

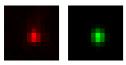
Coordinates: -93.3 um (x), -63.1 um (y), 61.0 um (z)

Corresponding bead: Not found

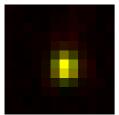
FWHM	Non corrected	Corrected	Theoretical
min	418 nm	436 nm	270 nm
max	504 nm	525 nm	270 nm
Z	2.02 um	2.02 um	1.3 um
Asymmetry	0.83		
Theta	-88.1°		

## XY profile & fitting parameters :

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



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



A = 638.574 (brightness)

B = 123.512 (background)

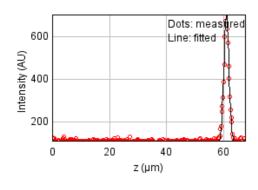
a = 0.766 px

b = -0.008 px

c = 0.529 px

xc = 6.110 pxyc = 6.311 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27911.4310

Standard deviation: 9.53503

R^2: 0.98800 Parameters: a = 112.94867 b = 703.37937

c = 61.03487

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

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

Frame size: 12 pixels

Coordinates: -86.3 um (x), -69.6 um (y), 60.1 um (z)

Corresponding bead: Not found

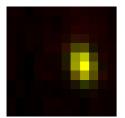
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	440 nm	270 nm
max	641 nm	667 nm	270 nm
Z	3.64 um	3.65 um	1.3 um
Asymmetry	0.659		
Theta	-75.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 391.572 (brightness)

B = 118.585 (background)

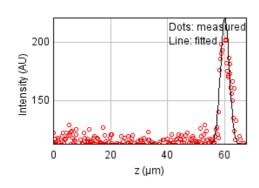
a = 0.724 px

b = -0.107 px

c = 0.356 px

xc = 7.807 pxyc = 5.815 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21736.5503

Standard deviation: 8.41446

R^2: 0.85927 Parameters:

a = 113.25581

b = 220.98948

c = 60.13539

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

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

Frame size: 12 pixels

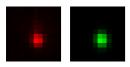
Coordinates: -65.7 um (x), -69.8 um (y), 60.7 um (z)

Corresponding bead: Not found

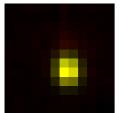
FWHM	Non corrected	Corrected	Theoretical
min	419 nm	436 nm	270 nm
max	518 nm	540 nm	270 nm
Z	2.29 um	2.3 um	1.3 um
Asymmetry	0.808		
Theta	-83.7°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 677.983 (brightness)

B = 123.487 (background)

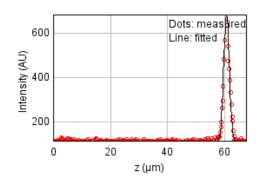
a = 0.762 px

b = -0.029 px

c = 0.503 px

xc = 6.381 pxyc = 6.776 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 62479.6635

Standard deviation: 14.26593

R^2: 0.97457 Parameters:

a = 113.38033

b = 681.27696

c = 60.71381

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

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

Frame size: 12 pixels

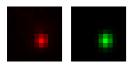
Coordinates: -42.7 um (x), -71.8 um (y), 60.7 um (z)

Corresponding bead: Not found

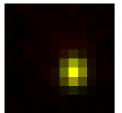
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	440 nm	270 nm
max	518 nm	539 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.815		
Theta	86.2°		

## XY profile & fitting parameters :

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



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



A = 664.210 (brightness)

B = 122.700 (background)

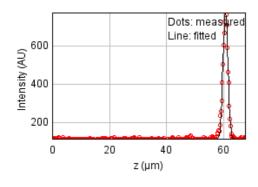
a = 0.752 px

b = 0.017 px

c = 0.501 px

xc = 7.069 pxyc = 6.937 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21891.9642

Standard deviation: 8.44449

R^2: 0.99240 Parameters: a = 113.61749 b = 771.68817

c = 60.69661

# Bead 3716 (Rejected)

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), -72.7 um (y), 58.1 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.44 um	3.46 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

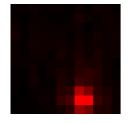
### XY profile & fitting parameters :

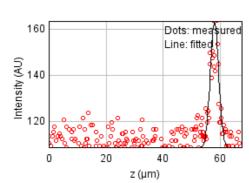
(red: the original data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





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

Sum of residuals squared: 14216.9523 Standard deviation: 6.80509

R^2: 0.69478 Parameters: a = 108.88167 b = 163.43248

c = 58.05167d = 1.46161

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

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

Frame size: 12 pixels

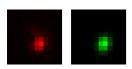
Coordinates: -94.5 um (x), -78.0 um (y), 60.7 um (z)

Corresponding bead: Not found

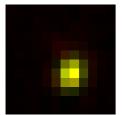
FWHM	Non corrected	Corrected	Theoretical
min	424 nm	441 nm	270 nm
max	545 nm	567 nm	270 nm
Z	1.75 um	1.75 um	1.3 um
Asymmetry	0.778		
Theta	75.6°		

#### XY profile & fitting parameters :

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



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



A = 655.760 (brightness)

B = 123.553 (background)

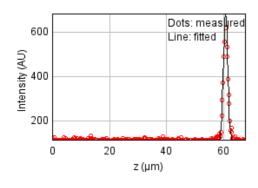
a = 0.729 px

b = 0.071 px

c = 0.471 px

xc = 6.663 pxyc = 7.030 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32996.3060

Standard deviation: 10.36725

R^2: 0.98266 Parameters: a = 113.83926 b = 684.26176 c = 60.73321

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

Frame size: 12 pixels

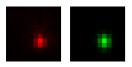
Coordinates: -62.3 um (x), -81.5 um (y), 61.2 um (z)

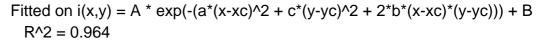
Corresponding bead: Not found

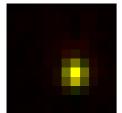
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	417 nm	270 nm
max	480 nm	499 nm	270 nm
Z	2.01 um	2.02 um	1.3 um
Asymmetry	0.834		
Theta	-86.4°		

#### XY profile & fitting parameters :

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







Parameters:

A = 920.569 (brightness)

B = 128.625 (background)

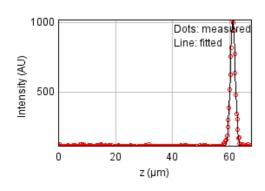
a = 0.838 px

b = -0.016 px

c = 0.584 px

xc = 6.973 pxyc = 7.167 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 31902.5915

Standard deviation: 10.19398

R^2: 0.99411 Parameters: a = 112.32309 b = 1017.61036

c = 61.16437

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

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

Frame size: 12 pixels

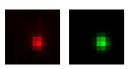
Coordinates: -37.9 um (x), -82.3 um (y), 60.8 um (z)

Corresponding bead: Not found

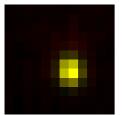
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	417 nm	270 nm
max	497 nm	517 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.806		
Theta	-84.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 682.556 (brightness)

B = 125.075 (background)

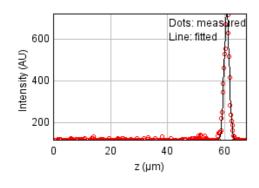
a = 0.836 px

b = -0.026 px

c = 0.546 px

xc = 6.669 pxyc = 6.751 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 35852.9669

Standard deviation: 10.80671

R^2: 0.98612 Parameters: a = 114.41016 b = 722.88059

c = 60.78360

# Bead 3720 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -3.4 um (x), -83.1 um (y), 61.1 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	415 nm	432 nm	270 nm
max	467 nm	486 nm	270 nm
Z	3.19 um	3.2 um	1.3 um
Asymmetry	0.888		
Theta	-66.4°		

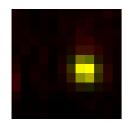
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.911$$



Parameters:

A = 481.136 (brightness)

B = 128.903 (background)

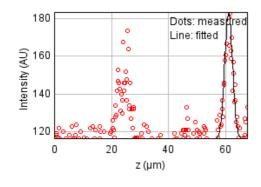
a = 0.754 px

b = -0.061 px

c = 0.642 px

xc = 7.543 pxyc = 6.137 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 37823.1314

Standard deviation: 11.09966

R^2: 0.54844 Parameters:

a = 116.13135

b = 183.45477

c = 61.11352

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

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

Frame size: 12 pixels

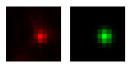
Coordinates: -121 um (x), -83.1 um (y), 61.1 um (z)

Corresponding bead: Not found

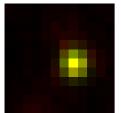
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	465 nm	270 nm
max	503 nm	524 nm	270 nm
Z	1.91 um	1.92 um	1.3 um
Asymmetry	0.887		
Theta	-79.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 444.636 (brightness)

B = 126.939 (background)

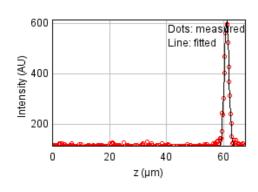
a = 0.668 px

b = -0.025 px

c = 0.534 px

xc = 7.132 pxyc = 6.035 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22092.1282

Standard deviation: 8.48300

R^2: 0.98618 Parameters: a = 112.51603

b = 614.06515

c = 61.11366

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

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

Frame size: 12 pixels

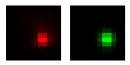
Coordinates: -86.8 um (x), -83.5 um (y), 61.3 um (z)

Corresponding bead: Not found

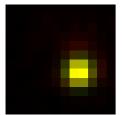
FWHM	Non corrected	Corrected	Theoretical
min	475 nm	494 nm	270 nm
max	514 nm	536 nm	270 nm
Z	2.36 um	2.37 um	1.3 um
Asymmetry	0.923		
Theta	89.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 1220.311 (brightness)

B = 138.726 (background)

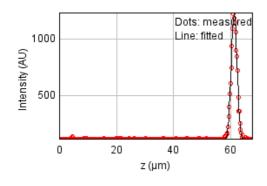
a = 0.595 px

b = 0.001 px

c = 0.507 px

xc = 7.525 pxyc = 6.859 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 41386.0158

Standard deviation: 11.61068

R^2: 0.99576 Parameters:

a = 113.43484

b = 1241.06228

c = 61.28182

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

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

Frame size: 12 pixels

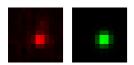
Coordinates: 132 um (x), -90.0 um (y), 60.5 um (z)

Corresponding bead: Not found

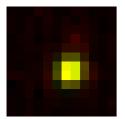
FWHM	Non corrected	Corrected	Theoretical
min	452 nm	470 nm	270 nm
max	488 nm	509 nm	270 nm
Z	2.29 um	2.29 um	1.3 um
Asymmetry	0.925		
Theta	71.2°		

#### XY profile & fitting parameters :

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



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



A = 373.447 (brightness)

B = 117.393 (background)

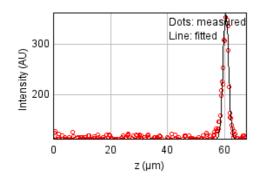
a = 0.648 px

b = 0.029 px

c = 0.573 px

xc = 6.461 pxyc = 6.515 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22839.2777

Standard deviation: 8.62526

R^2: 0.95411 Parameters: a = 110.76968 b = 363.71014

c = 60.47135

# Bead 3724 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -35.1 um (x), -90.3 um (y), 60.9 um (z)

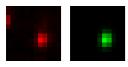
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

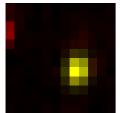
FWHM	Non corrected	Corrected	Theoretical
min	382 nm	397 nm	270 nm
max	520 nm	541 nm	270 nm
Z	2.32 um	2.33 um	1.3 um
Asymmetry	0.734		
Theta	83.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 582.655 (brightness) B = 135.488 (background)

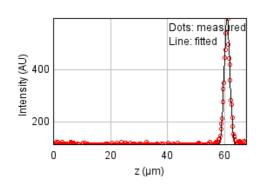
a = 0.916 px

b = 0.048 px

c = 0.503 px

xc = 7.333 pxyc = 6.824 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24435.9142

Standard deviation: 8.92165

R^2: 0.98628 Parameters:

a = 114.01029

b = 597.02331

c = 60.89687

# Bead 3725 (Rejected)

Date: Mon Oct 17 13:54:35 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)

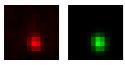
Corresponding bead: Not found

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

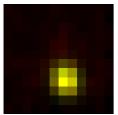
FWHM	Non corrected	Corrected	Theoretical
min	472 nm	492 nm	270 nm
max	559 nm	583 nm	270 nm
Z	4.06 um	4.07 um	1.3 um
Asymmetry	0.845		
Theta	-76.0°		

## XY profile & fitting parameters :

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



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



A = 422.634 (brightness) B = 125.633 (background)

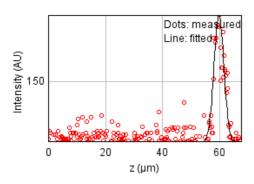
a = 0.591 px

b = -0.041 px

c = 0.439 px

xc = 6.280 pxyc = 7.764 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 13:54:35 PDT 2022

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

Frame size: 12 pixels

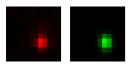
Coordinates: -1.04 um (x), -90.4 um (y), 60.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	398 nm	414 nm	270 nm
max	524 nm	546 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.759		
Theta	-87.0°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 577.420 (brightness)

B = 124.115 (background)

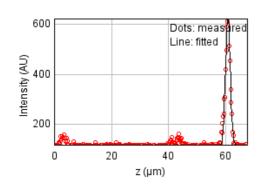
a = 0.847 px

b = -0.019 px

c = 0.490 px

xc = 7.273 pxyc = 7.354 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 49531.0952

Standard deviation: 12.70193

R^2: 0.97082 Parameters: a = 116.85771 b = 625.24009 c = 60.84309

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

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

Frame size: 12 pixels

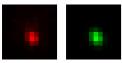
Coordinates: -48.8 um (x), -91.6 um (y), 61.0 um (z)

Corresponding bead: Not found

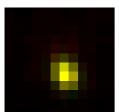
FWHM	Non corrected	Corrected	Theoretical
min	413 nm	430 nm	270 nm
max	533 nm	555 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.775		
Theta	-65.4°		

#### XY profile & fitting parameters :

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



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



A = 728.452 (brightness)

B = 122.898 (background)

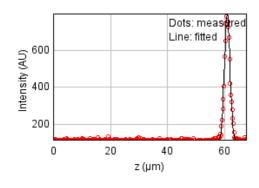
a = 0.733 px

b = -0.119 px

c = 0.527 px

xc = 6.142 pxyc = 6.733 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24923.0246

Standard deviation: 9.01013

R^2: 0.99275 Parameters: a = 113.16933

b = 799.17278

c = 60.96329

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

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

Frame size: 12 pixels

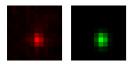
Coordinates: 131 um (x), -93.8 um (y), 60.6 um (z)

Corresponding bead: Not found

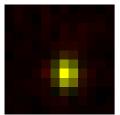
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	415 nm	270 nm
max	510 nm	531 nm	270 nm
Z	2.35 um	2.36 um	1.3 um
Asymmetry	0.783		
Theta	-86.9°		

#### XY profile & fitting parameters :

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



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



A = 323.280 (brightness)

B = 118.230 (background)

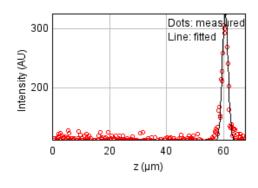
a = 0.843 px

b = -0.017 px

c = 0.518 px

xc = 6.217 pxyc = 7.037 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 22662.9996

Standard deviation: 8.59191

R^2: 0.93934 Parameters: a = 111.59530 b = 326.06318 c = 60.60426

# Bead 3729 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -3.01 um (x), -96.2 um (y), 60.9 um (z)

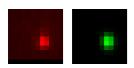
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

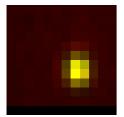
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	419 nm	270 nm
max	523 nm	545 nm	270 nm
Z	2.1 um	2.1 um	1.3 um
Asymmetry	0.769		
Theta	-88.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 608.566 (brightness)

B = 111.384 (background)

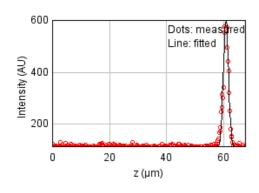
a = 0.827 px

b = -0.009 px

c = 0.490 px

xc = 7.324 pxyc = 6.622 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 39756.7088

Standard deviation: 11.37984

R^2: 0.97633

Parameters: a = 113.90059

b = 603.70629

c = 60.85618

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

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

Frame size: 12 pixels

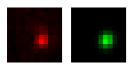
Coordinates: -162 um (x), 2.82 um (y), 60.2 um (z)

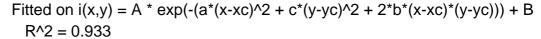
Corresponding bead: Not found

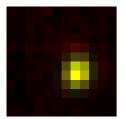
FWHM	Non corrected	Corrected	Theoretical
min	451 nm	470 nm	270 nm
max	538 nm	561 nm	270 nm
Z	2.16 um	2.16 um	1.3 um
Asymmetry	0.838		
Theta	76.6°		

## XY profile & fitting parameters :

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







Parameters:

A = 239.574 (brightness)

B = 115.360 (background)

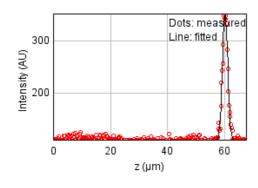
a = 0.649 px

b = 0.044 px

c = 0.474 px

xc = 7.237 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: 11547.1553

Standard deviation: 6.13293

R^2: 0.97261 Parameters: a = 110.57295 b = 352.25071 c = 60.21659

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

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

Frame size: 12 pixels

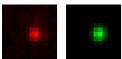
Coordinates: -161 um (x), -9.32 um (y), 60.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	447 nm	465 nm	270 nm
max	516 nm	537 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.866		
Theta	83.5°		

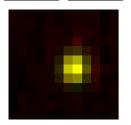
## XY profile & fitting parameters :

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





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



Parameters:

A = 256.324 (brightness)

B = 113.896(background)

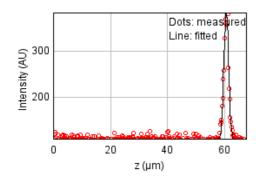
a = 0.670 px

b = 0.019 px

c = 0.507 px

xc = 6.684 pxyc = 5.878 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17189.8922

Standard deviation: 7.48286

R^2: 0.96447 Parameters: a = 110.83841

b = 383.20177

c = 60.62663

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

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

Frame size: 12 pixels

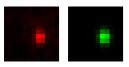
Coordinates: -159 um (x), -27.7 um (y), 60.7 um (z)

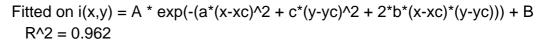
Corresponding bead: Not found

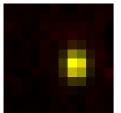
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	413 nm	270 nm
max	518 nm	540 nm	270 nm
Z	2.47 um	2.48 um	1.3 um
Asymmetry	0.766		
Theta	-88.2°		

## XY profile & fitting parameters :

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







Parameters:

A = 389.236 (brightness)

B = 117.934 (background)

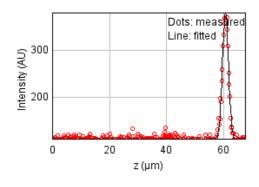
a = 0.851 px

b = -0.011 px

c = 0.500 px

xc = 7.390 pxyc = 6.189 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13841.4655

Standard deviation: 6.71463

R^2: 0.97682 Parameters:

a = 110.55794

b = 380.81541

c = 60.69300

# Bead 3733 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -142 um (x), -30.1 um (y), 27.9 um (z)

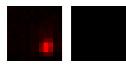
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	2.51 um	2.61 um	270 nm
max	3.66 um	3.81 um	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.685		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.167$ 



Parameters:

A = -64.238 (brightness)

B = 180.387 (background)

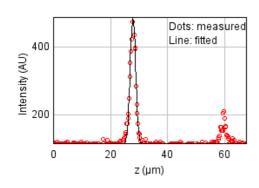
a = 0.009 px

b = 0.015 px

c = 0.002 px

xc = 1.989 pxyc = 3.361 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 62938.0967

Standard deviation: 14.31817

R^2: 0.94065 Parameters:

a = 114.53097

b = 485.86681

c = 27.93045

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

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

Frame size: 12 pixels

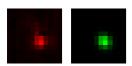
Coordinates: -120 um (x), -39.2 um (y), 60.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	425 nm	442 nm	270 nm
max	490 nm	510 nm	270 nm
Z	1.88 um	1.89 um	1.3 um
Asymmetry	0.867		
Theta	-56.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 455.988 (brightness)

B = 120.138 (background)

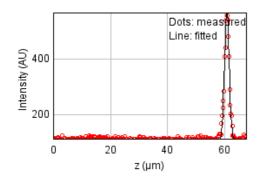
a = 0.687 px

b = -0.085 px

c = 0.616 px

xc = 6.736 pxyc = 6.699 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20914.1934

Standard deviation: 8.25375

R^2: 0.98413 Parameters: a = 112.65672 b = 571.08266

c = 60.83118

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

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

Frame size: 12 pixels

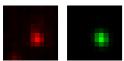
Coordinates: -147 um (x), -41.6 um (y), 61.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	433 nm	451 nm	270 nm
max	522 nm	544 nm	270 nm
Z	2.35 um	2.36 um	1.3 um
Asymmetry	0.829		
Theta	-75.8°		

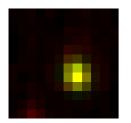
#### XY profile & fitting parameters :

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





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



Parameters:

A = 488.658 (brightness)

B = 131.363 (background)

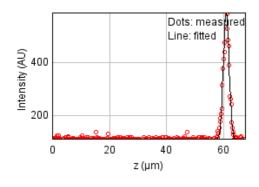
a = 0.702 px

b = -0.053 px

c = 0.505 px

xc = 6.938 pxyc = 6.758 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 28886.2421

Standard deviation: 9.70010

R^2: 0.98358 Parameters: a = 111.36180b = 587.87917

c = 60.97577

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

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

Frame size: 12 pixels

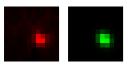
Coordinates: -144 um (x), -42.3 um (y), 60.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	421 nm	438 nm	270 nm
max	512 nm	533 nm	270 nm
Z	2.37 um	2.38 um	1.3 um
Asymmetry	0.821		
Theta	-51.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 487.876 (brightness)

B = 121.955(background)

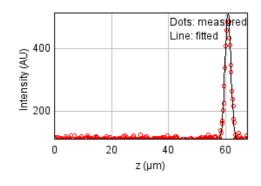
a = 0.664 px

b = -0.120 px

c = 0.606 px

xc = 7.405 pxyc = 6.674 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18622.8621

Standard deviation: 7.78850

R^2: 0.98532 Parameters: a = 111.86151b = 515.28780c = 60.86888

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

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

Frame size: 12 pixels

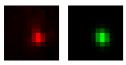
Coordinates: -130 um (x), -44.9 um (y), 60.8 um (z)

Corresponding bead: Not found

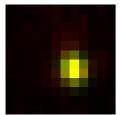
FWHM	Non corrected	Corrected	Theoretical
min	437 nm	455 nm	270 nm
max	545 nm	568 nm	270 nm
Z	2.24 um	2.24 um	1.3 um
Asymmetry	0.801		
Theta	-77.9°		

## XY profile & fitting parameters :

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



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



A = 443.854 (brightness)

B = 122.921 (background)

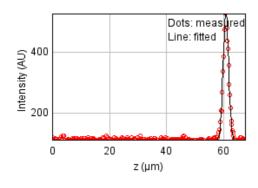
a = 0.691 px

b = -0.051 px

c = 0.462 px

xc = 6.922 pxyc = 6.517 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19284.0028

Standard deviation: 7.92555

R^2: 0.98500 Parameters:

a = 110.85427

b = 528.25477

c = 60.84906

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

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

Frame size: 12 pixels

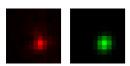
Coordinates: -123 um (x), -45.7 um (y), 61.1 um (z)

Corresponding bead: Not found

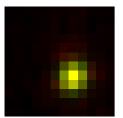
FWHM	Non corrected	Corrected	Theoretical
min	474 nm	494 nm	270 nm
max	542 nm	565 nm	270 nm
Z	1.82 um	1.83 um	1.3 um
Asymmetry	0.875		
Theta	73.5°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.930$$



Parameters:

A = 380.474 (brightness)

B = 120.393 (background)

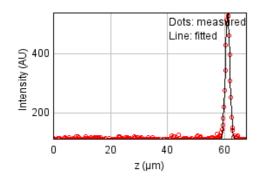
a = 0.586 px

b = 0.038 px

c = 0.468 px

xc = 6.980 pxyc = 7.179 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13912.2107

Standard deviation: 6.73176

R^2: 0.98742 Parameters: a = 112.36910

b = 539.31105

c = 61.10464

# Bead 3739 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -122 um (x), -48.1 um (y), 60.4 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	550 nm	573 nm	270 nm
max	1.64 um	1.71 um	270 nm
Z	3.26 um	3.27 um	1.3 um
Asymmetry	0.335		
Theta	-35.5°		

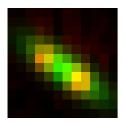
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.610$$



Parameters:

A = 228.432 (brightness)

B = 122.853 (background)

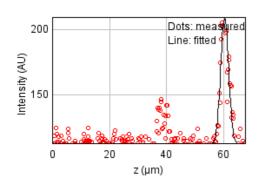
a = 0.183 px

b = -0.186 px

c = 0.311 px

xc = 5.859 pxyc = 6.224 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 25871.4948

Standard deviation: 9.17998

R^2: 0.79165

Parameters:

a = 112.42089

b = 209.90651

c = 60.40839

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

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

Frame size: 12 pixels

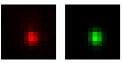
Coordinates: -150 um (x), -54.6 um (y), 61.3 um (z)

Corresponding bead: Not found

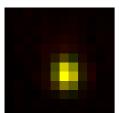
FWHM	Non corrected	Corrected	Theoretical
min	428 nm	446 nm	270 nm
max	531 nm	553 nm	270 nm
Z	2.34 um	2.35 um	1.3 um
Asymmetry	0.806		
Theta	-83.3°		

## XY profile & fitting parameters :

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



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



A = 714.430 (brightness)

B = 122.946 (background)

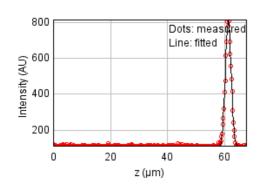
a = 0.728 px

b = -0.030 px

c = 0.479 px

xc = 6.239 pxyc = 6.755 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20002.8801

Standard deviation: 8.07192

R^2: 0.99471 Parameters: a = 110.52264 b = 814.15870

c = 61.32834

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

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

Frame size: 12 pixels

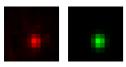
Coordinates: -109 um (x), -62.4 um (y), 61.0 um (z)

Corresponding bead: Not found

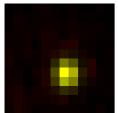
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	493 nm	514 nm	270 nm
Z	2.26 um	2.27 um	1.3 um
Asymmetry	0.84		
Theta	-88.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 506.648 (brightness)

B = 127.255 (background)

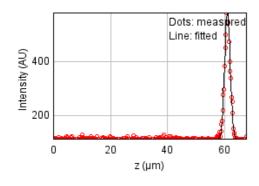
a = 0.782 px

b = -0.006 px

c = 0.551 px

xc = 6.263 pxyc = 7.172 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19837.3464

Standard deviation: 8.03846

R^2: 0.98800 Parameters:

a = 112.09825

b = 583.94677

c = 61.03444

# Bead 3742 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -54.0 um (x), -69.2 um (y), 2.3 um (z)

Corresponding bead: Not found

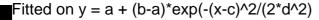
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.72 um	3.73 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

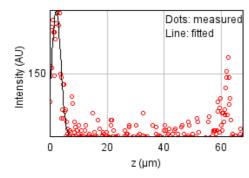
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 25914.9162

Standard deviation: 9.18768

R^2: 0.71360 Parameters: a = 112.98719 b = 187.57761 c = 2.29835

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

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

Frame size: 12 pixels

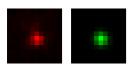
Coordinates: -110 um (x), -72.1 um (y), 61.3 um (z)

Corresponding bead: Not found

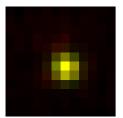
FWHM	Non corrected	Corrected	Theoretical
min	463 nm	482 nm	270 nm
max	493 nm	513 nm	270 nm
Z	2.03 um	2.04 um	1.3 um
Asymmetry	0.939		
Theta	-66.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 503.133 (brightness)

B = 121.109 (background)

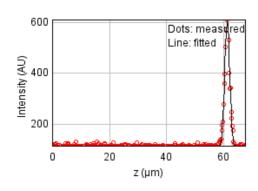
a = 0.615 px

b = -0.027 px

c = 0.564 px

xc = 6.077 pxyc = 6.176 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24644.1335

Standard deviation: 8.95958

R^2: 0.98530 Parameters: a = 112.77670

b = 612.10738

c = 61.31297

# Bead 3744 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -120 um (x), -77.1 um (y), 62.0 um (z)

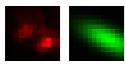
Corresponding bead: Not found

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

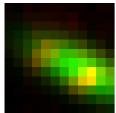
FWHM	Non corrected	Corrected	Theoretical
min	793 nm	826 nm	270 nm
max	2.05 um	2.13 um	270 nm
Z	4.13 um	4.15 um	1.3 um
Asymmetry	0.387		
Theta	-25.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.609$$



A = 204.148 (brightness)

B = 120.823 (background)

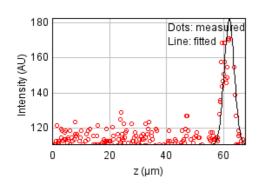
a = 0.066 px

b = -0.071 px

c = 0.180 px

xc = 8.057 pxyc = 6.755 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20123.0969

Standard deviation: 8.09614

R^2: 0.76630 Parameters:

a = 110.65699

b = 182.36259

c = 62.01712

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

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

Frame size: 12 pixels

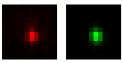
Coordinates: -85.8 um (x), -78.5 um (y), 61.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	396 nm	413 nm	270 nm
max	502 nm	522 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.79		
Theta	-82.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 679.509 (brightness)

B = 124.306 (background)

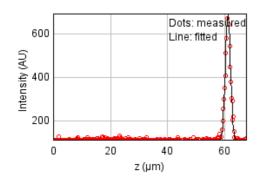
a = 0.849 px

b = -0.042 px

c = 0.539 px

xc = 6.137 pxyc = 6.394 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27483.3685

Standard deviation: 9.46163

R^2: 0.98812 Parameters: a = 113.87792

b = 693.10777

c = 61.21277

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

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

Frame size: 12 pixels

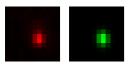
Coordinates: -62.9 um (x), -86.0 um (y), 61.2 um (z)

Corresponding bead: Not found

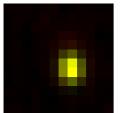
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	522 nm	544 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.769		
Theta	-86.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 636.242 (brightness)

B = 121.932 (background)

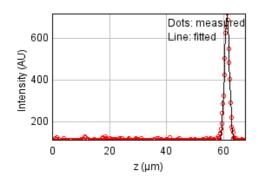
a = 0.831 px

b = -0.021 px

c = 0.494 px

xc = 6.865 pxyc = 6.539 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20010.0325

Standard deviation: 8.07337

R^2: 0.99162 Parameters: a = 112.09928 b = 716.72263

c = 61.21865

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

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

Frame size: 12 pixels

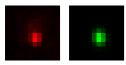
Coordinates: -36.9 um (x), -89.3 um (y), 60.9 um (z)

Corresponding bead: Not found

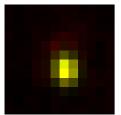
FWHM	Non corrected	Corrected	Theoretical
min	406 nm	423 nm	270 nm
max	517 nm	539 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.785		
Theta	-83.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 520.220 (brightness)

B = 124.922 (background)

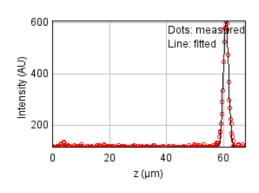
a = 0.809 px

b = -0.035 px

c = 0.506 px

xc = 6.164 pxyc = 6.579 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20355.7900

Standard deviation: 8.14282

R^2: 0.98827 Parameters:

a = 113.90701

b = 608.86500

c = 60.87895

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

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

Frame size: 12 pixels

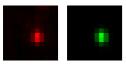
Coordinates: -35.4 um (x), -92.2 um (y), 60.8 um (z)

Corresponding bead: Not found

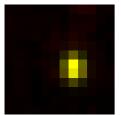
FWHM	Non corrected	Corrected	Theoretical
min	364 nm	379 nm	270 nm
max	478 nm	498 nm	270 nm
Z	2.25 um	2.26 um	1.3 um
Asymmetry	0.761		
Theta	-87.1°		

## XY profile & fitting parameters :

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



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



A = 562.503 (brightness)

B = 123.260 (background)

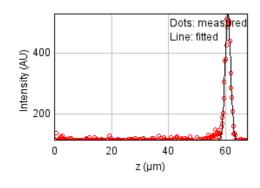
a = 1.012 px

b = -0.021 px

c = 0.588 px

xc = 7.055 pxyc = 6.401 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26902.4366

Standard deviation: 9.36109

R^2: 0.97911 Parameters:

a = 114.43136

b = 529.26986

c = 60.84486

## Bead 3749 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: 99.0 um (x), 72.9 um (y), 57.5 um (z)

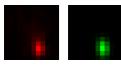
Corresponding bead: Not found

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

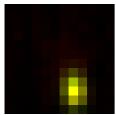
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	604 nm	629 nm	270 nm
Z	2.92 um	2.93 um	1.3 um
Asymmetry	0.641		
Theta	-86.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 608.899 (brightness) B = 123.485 (background)

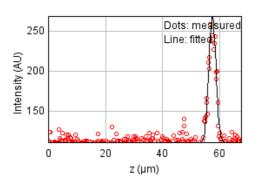
a = 0.895 px

b = -0.034 px

c = 0.370 px

xc = 7.112 pxyc = 8.915 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16376.7933

Standard deviation: 7.30374

R^2: 0.93312 Parameters:

a = 111.79395

b = 268.24387

c = 57.50914

# Bead 3750 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: 145 um (x), 22.3 um (y), 58.2 um (z)

Corresponding bead: Not found

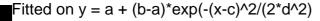
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.62 um	3.64 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

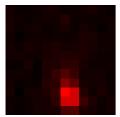
### XY profile & fitting parameters :

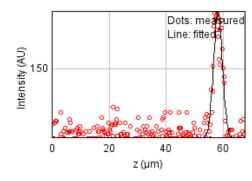
(red: the original data, green: the fit, yellow: the two merged)





## Z profile & fitting parameters:





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

Sum of residuals squared: 15980.7816

Standard deviation: 7.21489

R^2: 0.79497 Parameters: a = 109.94699 b = 183.68780

c = 58.22491

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

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

Frame size: 12 pixels

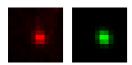
Coordinates: -157 um (x), -23.2 um (y), 60.6 um (z)

Corresponding bead: Not found

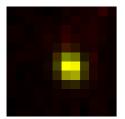
FWHM	Non corrected	Corrected	Theoretical
min	427 nm	444 nm	270 nm
max	496 nm	516 nm	270 nm
Z	2.03 um	2.04 um	1.3 um
Asymmetry	0.86		
Theta	-64.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 343.167 (brightness)

B = 115.885(background)

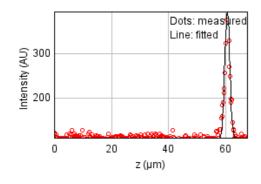
a = 0.702 px

b = -0.074 px

c = 0.581 px

xc = 6.484 pxyc = 6.107 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24634.7196

Standard deviation: 8.95787

R^2: 0.95602 Parameters: a = 111.19437b = 395.25547

c = 60.63460

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

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

Frame size: 12 pixels

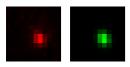
Coordinates: -156 um (x), -35.4 um (y), 60.9 um (z)

Corresponding bead: Not found

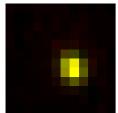
FWHM	Non corrected	Corrected	Theoretical
min	401 nm	418 nm	270 nm
max	495 nm	515 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.81		
Theta	-69.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 492.806 (brightness)

B = 117.643 (background)

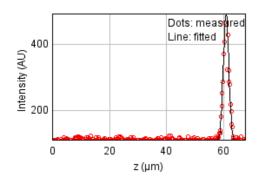
a = 0.801 px

b = -0.093 px

c = 0.582 px

xc = 6.815 pxyc = 6.545 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 38184.6784

Standard deviation: 11.15258

R^2: 0.96524 Parameters: a = 110.79510

u = 110.73310

b = 493.34527

c = 60.90694

# Bead 3753 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -140 um (x), -48.7 um (y), 61.2 um (z)

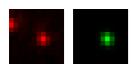
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

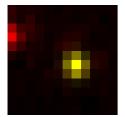
FWHM	Non corrected	Corrected	Theoretical
min	386 nm	402 nm	270 nm
max	446 nm	465 nm	270 nm
Z	1.99 um	2.0 um	1.3 um
Asymmetry	0.865		
Theta	-77.4°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.542$$



Parameters:

A = 415.519 (brightness)

B = 132.944 (background)

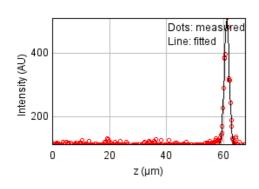
a = 0.890 px

b = -0.048 px

c = 0.685 px

xc = 6.961 pxyc = 6.059 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 32610.1168

Standard deviation: 10.30640

R^2: 0.96937 Parameters:

a = 111.25448

b = 509.40370

c = 61.15304

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

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

Frame size: 12 pixels

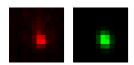
Coordinates: -110 um (x), -51.5 um (y), 60.6 um (z)

Corresponding bead: Not found

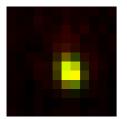
FWHM	Non corrected	Corrected	Theoretical
min	406 nm	422 nm	270 nm
max	537 nm	559 nm	270 nm
Z	2.55 um	2.56 um	1.3 um
Asymmetry	0.756		
Theta	-73.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 359.215 (brightness)

B = 117.744 (background)

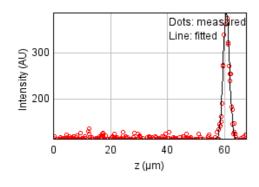
a = 0.789 px

b = -0.094 px

c = 0.494 px

xc = 6.438 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: 25517.3530

Standard deviation: 9.11693

R^2: 0.96113 Parameters:

a = 112.40656

b = 389.21040

c = 60.64419

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

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

Frame size: 12 pixels

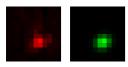
Coordinates: -117 um (x), -60.5 um (y), 61.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	452 nm	470 nm	270 nm
max	535 nm	557 nm	270 nm
Z	1.86 um	1.87 um	1.3 um
Asymmetry	0.844		
Theta	26.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 423.455 (brightness)

B = 122.140 (background)

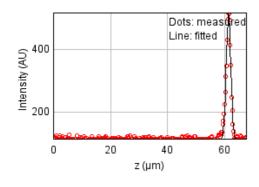
a = 0.506 px

b = 0.075 px

c = 0.621 px

xc = 6.671 pxyc = 7.308 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 19552.1853

Standard deviation: 7.98047

R^2: 0.98112 Parameters: a = 111.48617 b = 519.77100

c = 61.41708

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

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

Frame size: 12 pixels

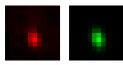
Coordinates: -86.3 um (x), -69.6 um (y), 60.1 um (z)

Corresponding bead: Not found

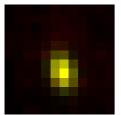
FWHM	Non corrected	Corrected	Theoretical
min	417 nm	435 nm	270 nm
max	632 nm	659 nm	270 nm
Z	3.64 um	3.65 um	1.3 um
Asymmetry	0.66		
Theta	-75.0°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 391.916 (brightness)

B = 120.900 (background)

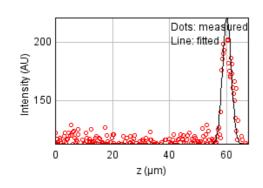
a = 0.742 px

b = -0.109 px

c = 0.365 px

xc = 5.806 pxyc = 6.818 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21736.5503

Standard deviation: 8.41446

R^2: 0.85927 Parameters: a = 113.25581 b = 220.98948

c = 60.13539

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

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

Frame size: 12 pixels

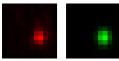
Coordinates: -71.8 um (x), -86.5 um (y), 61.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	445 nm	464 nm	270 nm
max	547 nm	569 nm	270 nm
Z	2.42 um	2.43 um	1.3 um
Asymmetry	0.814		
Theta	88.9°		

### XY profile & fitting parameters :

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





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



Parameters:

A = 469.353(brightness)

B = 121.476(background)

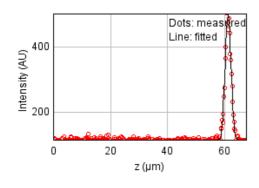
a = 0.677 px

b = 0.004 px

c = 0.449 px

xc = 7.713 pxyc = 6.884 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23940.9336

Standard deviation: 8.83083

R^2: 0.98043 Parameters: a = 113.03208b = 504.58828

c = 61.27075

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

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

Frame size: 12 pixels

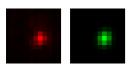
Coordinates: -89.3 um (x), -89.9 um (y), 61.6 um (z)

Corresponding bead: Not found

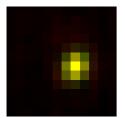
FWHM	Non corrected	Corrected	Theoretical
min	428 nm	446 nm	270 nm
max	522 nm	544 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.82		
Theta	72.2°		

### XY profile & fitting parameters :

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



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



A = 636.038 (brightness)

B = 124.476 (background)

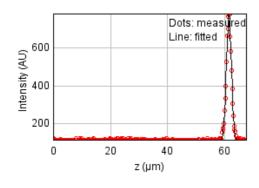
a = 0.709 px

b = 0.070 px

c = 0.515 px

xc = 7.020 pxyc = 6.032 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17611.6106

Standard deviation: 7.57409

R^2: 0.99417 Parameters: a = 112.54621 b = 783.23518

c = 61.55179

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

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

Frame size: 12 pixels

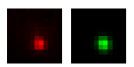
Coordinates: -52.2 um (x), -94.8 um (y), 61.5 um (z)

Corresponding bead: Not found

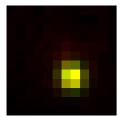
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	447 nm	270 nm
max	484 nm	504 nm	270 nm
Z	1.78 um	1.79 um	1.3 um
Asymmetry	0.887		
Theta	-70.8°		

## XY profile & fitting parameters :

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



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



A = 605.222 (brightness)

B = 128.417 (background)

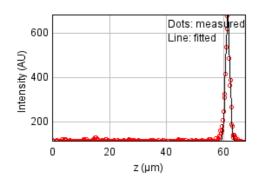
a = 0.712 px

b = -0.048 px

c = 0.590 px

xc = 6.622 pxyc = 7.231 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 50173.2459

Standard deviation: 12.78400

R^2: 0.97437 Parameters: a = 115.50166 b = 686.42125

c = 61.47877

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

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

Frame size: 12 pixels

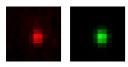
Coordinates: -159 um (x), -27.7 um (y), 60.7 um (z)

Corresponding bead : Not found

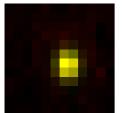
FWHM	Non corrected	Corrected	Theoretical
min	398 nm	415 nm	270 nm
max	520 nm	541 nm	270 nm
Z	2.47 um	2.48 um	1.3 um
Asymmetry	0.766		
Theta	-88.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 389.018 (brightness)

B = 117.494 (background)

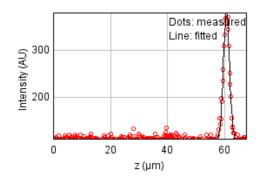
a = 0.846 px

b = -0.011 px

c = 0.498 px

xc = 6.390 pxyc = 6.189 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13841.4655

Standard deviation: 6.71463

R^2: 0.97682 Parameters:

a = 110.55794

b = 380.81541

c = 60.69300

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

Frame size: 12 pixels

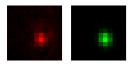
Coordinates: -142 um (x), -48.0 um (y), 61.2 um (z)

Corresponding bead: Not found

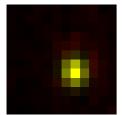
FWHM	Non corrected	Corrected	Theoretical
min	415 nm	433 nm	270 nm
max	498 nm	518 nm	270 nm
Z	2.2 um	2.21 um	1.3 um
Asymmetry	0.835		
Theta	-82.1°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 368.876 (brightness)

B = 121.177 (background)

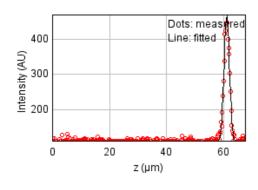
a = 0.774 px

b = -0.032 px

c = 0.546 px

xc = 6.920 pxyc = 6.814 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15592.4927

Standard deviation: 7.12670

R<sup>2</sup>: 0.98327 Parameters: a = 110.57439

h 400 40400

b = 468.40492

c = 61.15588

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

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

Frame size: 12 pixels

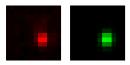
Coordinates: -95.4 um (x), -68.5 um (y), 60.9 um (z)

Corresponding bead: Not found

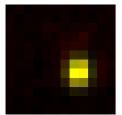
FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	502 nm	523 nm	270 nm
Z	2.26 um	2.27 um	1.3 um
Asymmetry	0.807		
Theta	86.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 418.145 (brightness)

B = 117.645 (background)

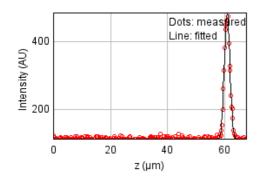
a = 0.815 px

b = 0.018 px

c = 0.533 px

xc = 7.480 pxyc = 6.866 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16289.8615

Standard deviation: 7.28433

R^2: 0.98431 Parameters:

a = 112.72123

b = 485.79834

c = 60.92722

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

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

Frame size: 12 pixels

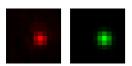
Coordinates: -127 um (x), -74.1 um (y), 61.4 um (z)

Corresponding bead: Not found

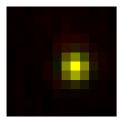
FWHM	Non corrected	Corrected	Theoretical
min	462 nm	481 nm	270 nm
max	502 nm	523 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.921		
Theta	-81.6°		

### XY profile & fitting parameters :

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



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



A = 500.415 (brightness)

B = 121.143 (background)

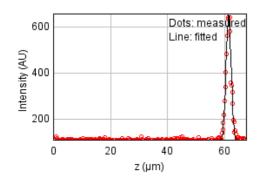
a = 0.627 px

b = -0.014 px

c = 0.535 px

xc = 6.979 pxyc = 6.106 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 31357.8877

Standard deviation: 10.10658

R^2: 0.98472 Parameters: a = 111.51881 b = 658.05760 c = 61.43864

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

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

Frame size: 12 pixels

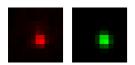
Coordinates: -60.4 um (x), -88.0 um (y), 61.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	480 nm	500 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.85		
Theta	-75.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 594.710 (brightness)

B = 120.771 (background)

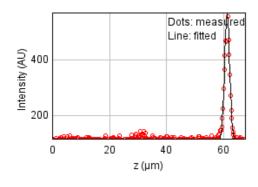
a = 0.792 px

b = -0.053 px

c = 0.595 px

xc = 6.546 pxyc = 6.638 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25771.3239

Standard deviation: 9.16219

R^2: 0.98174 Parameters: a = 114.18916 b = 571.81960

c = 61.27540

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

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

Frame size: 12 pixels

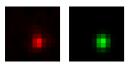
Coordinates: -93.3 um (x), -89.9 um (y), 61.6 um (z)

Corresponding bead: Not found

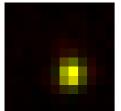
FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	494 nm	514 nm	270 nm
Z	1.95 um	1.96 um	1.3 um
Asymmetry	0.862		
Theta	88.4°		

## XY profile & fitting parameters :

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



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



A = 623.922 (brightness)

B = 123.912 (background)

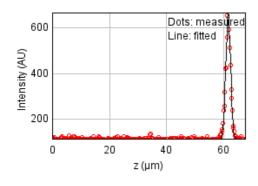
a = 0.741 px

b = 0.005 px

c = 0.550 px

xc = 6.780 pxyc = 7.297 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27051.7807

Standard deviation: 9.38704

R^2: 0.98647 Parameters: a = 112.43528

b = 667.60571

c = 61.64447

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

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

Frame size: 12 pixels

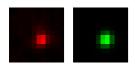
Coordinates: -101 um (x), -90.9 um (y), 61.9 um (z)

Corresponding bead: Not found

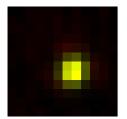
FWHM	Non corrected	Corrected	Theoretical
min	448 nm	466 nm	270 nm
max	497 nm	517 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.901		
Theta	72.6°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 578.457 (brightness)

B = 124.489 (background)

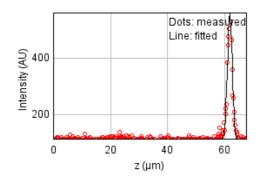
a = 0.658 px

b = 0.036 px

c = 0.555 px

xc = 6.649 pxyc = 6.545 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27239.1900

Standard deviation: 9.41950

R^2: 0.97926 Parameters:

a = 113.17306

b = 559.96534

c = 61.86321

## Bead 3767 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: 116 um (x), 37.0 um (y), 58.2 um (z)

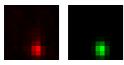
Corresponding bead: Not found

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

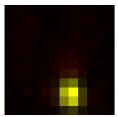
FWHM	Non corrected	Corrected	Theoretical
min	385 nm	401 nm	270 nm
max	507 nm	528 nm	270 nm
Z	3.5 um	3.52 um	1.3 um
Asymmetry	0.759		
Theta	-85.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 463.176 (brightness)

B = 125.010 (background)

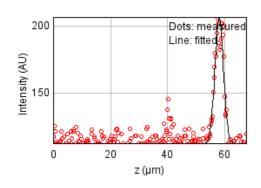
a = 0.904 px

b = -0.031 px

c = 0.525 px

xc = 6.714 pxyc = 9.244 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17059.7307

Standard deviation: 7.45447

R^2: 0.85132 Parameters:

a = 112.63729

b = 206.63796

c = 58.15162

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

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

Frame size: 12 pixels

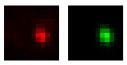
Coordinates: -129 um (x), 22.5 um (y), 57.0 um (z)

Corresponding bead: Not found

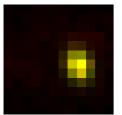
FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	562 nm	585 nm	270 nm
Z	2.98 um	2.99 um	1.3 um
Asymmetry	0.757		
Theta	-71.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 441.007 (brightness)

B = 125.371 (background)

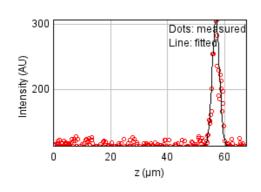
a = 0.710 px

b = -0.095 px

c = 0.456 px

xc = 7.700 pxyc = 6.121 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 42758.8209

Standard deviation: 11.80168

R^2: 0.89467 Parameters:

a = 111.81686

b = 307.24953

c = 56.97670

# Bead 3769 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -164 um (x), -36.2 um (y), 61.3 um (z)

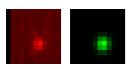
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

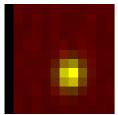
FWHM	Non corrected	Corrected	Theoretical
min	468 nm	487 nm	270 nm
max	538 nm	561 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.869		
Theta	84.3°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.503$$



Parameters:

A = 241.720 (brightness)

B = 104.667 (background)

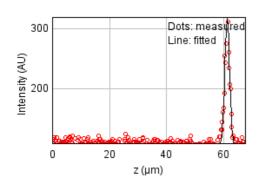
a = 0.612 px

b = 0.015 px

c = 0.464 px

xc = 6.683 pxyc = 7.170 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 15952.1379

Standard deviation: 7.20842

R^2: 0.94552 Parameters: a = 109.76035

b = 319.61027

c = 61.30763

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

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

Frame size: 12 pixels

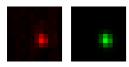
Coordinates: -145 um (x), -61.0 um (y), 61.5 um (z)

Corresponding bead: Not found

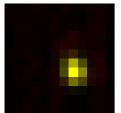
FWHM	Non corrected	Corrected	Theoretical
min	374 nm	389 nm	270 nm
max	473 nm	492 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.79		
Theta	-76.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 406.578 (brightness)

B = 116.326 (background)

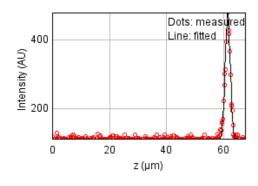
a = 0.941 px

b = -0.083 px

c = 0.621 px

xc = 7.141 pxyc = 6.839 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20455.7344

Standard deviation: 8.16278

R^2: 0.97830 Parameters:

a = 110.31085

b = 480.54642

c = 61.47867

## Bead 3771 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -110 um (x), -65.0 um (y), 61.1 um (z)

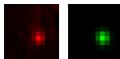
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	423 nm	441 nm	270 nm
max	489 nm	509 nm	270 nm
Z	1.85 um	1.86 um	1.3 um
Asymmetry	0.865		
Theta	-84.3°		

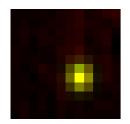
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.895$$



Parameters:

A = 292.050 (brightness)

B = 120.046 (background)

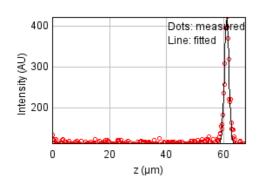
a = 0.748 px

b = -0.019 px

c = 0.564 px

xc = 7.089 pxyc = 6.883 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 23264.9472

Standard deviation: 8.70526

R^2: 0.96123 Parameters:

a = 113.34470

b = 421.70880

c = 61.13091

## Bead 3772 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -140 um (x), -72.9 um (y), 61.4 um (z)

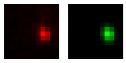
Corresponding bead: Not found

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

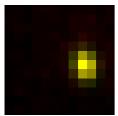
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	535 nm	558 nm	270 nm
Z	4.24 um	4.26 um	1.3 um
Asymmetry	0.726		
Theta	-77.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 433.012 (brightness)

B = 116.597 (background)

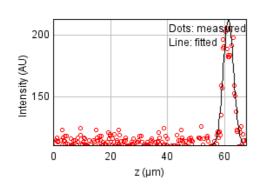
a = 0.869 px

b = -0.088 px

c = 0.488 px

xc = 8.284 pxyc = 6.060 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22342.4474

Standard deviation: 8.53093

R^2: 0.86103 Parameters:

a = 110.16230

b = 212.76618

c = 61.36253

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

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

Frame size: 12 pixels

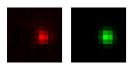
Coordinates: -139 um (x), -77.3 um (y), 61.6 um (z)

Corresponding bead: Not found

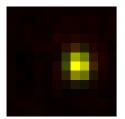
FWHM	Non corrected	Corrected	Theoretical
min	423 nm	441 nm	270 nm
max	504 nm	524 nm	270 nm
Z	2.87 um	2.89 um	1.3 um
Asymmetry	0.84		
Theta	-81.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 395.616 (brightness)

B = 116.262 (background)

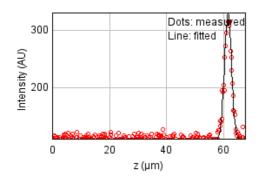
a = 0.745 px

b = -0.033 px

c = 0.534 px

xc = 7.330 pxyc = 5.915 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15606.9789

Standard deviation: 7.13001

R^2: 0.96592 Parameters: a = 110.88027 b = 330.10028 c = 61.58578

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

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

Frame size: 12 pixels

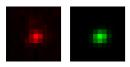
Coordinates: -115 um (x), -78.5 um (y), 61.5 um (z)

Corresponding bead: Not found

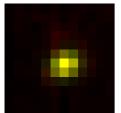
FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	521 nm	542 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.844		
Theta	23.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 489.967 (brightness)

B = 120.950 (background)

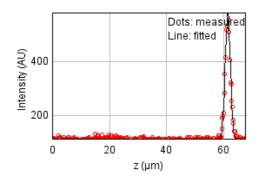
a = 0.528 px

b = 0.074 px

c = 0.662 px

xc = 6.109 pxyc = 6.157 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22773.7391

Standard deviation: 8.61287

R^2: 0.98532 Parameters: a = 112.49084 b = 584.41484

c = 61.50772

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

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

Frame size: 12 pixels

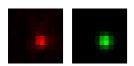
Coordinates: -115 um (x), -81.4 um (y), 61.5 um (z)

Corresponding bead: Not found

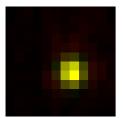
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	485 nm	505 nm	270 nm
Z	2.22 um	2.22 um	1.3 um
Asymmetry	0.889		
Theta	-84.1°		

### XY profile & fitting parameters :

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



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



A = 527.438 (brightness)

B = 122.028 (background)

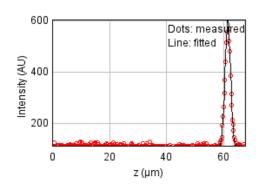
a = 0.721 px

b = -0.016 px

c = 0.572 px

xc = 6.714 pxyc = 6.683 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17682.7764

Standard deviation: 7.58938

R^2: 0.98991 Parameters: a = 113.26235

a = 110.20200

b = 604.01830

c = 61.51206

## Bead 3776 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -153 um (x), -82.3 um (y), 61.9 um (z)

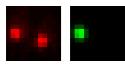
Corresponding bead: Not found

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

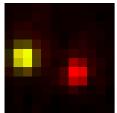
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	450 nm	469 nm	270 nm
Z	2.5 um	2.51 um	1.3 um
Asymmetry	0.898		
Theta	-75.5°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.464$$



Parameters:

A = 485.284 (brightness)

B = 144.819 (background)

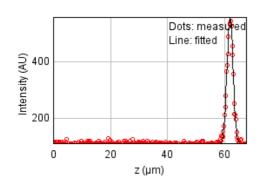
a = 0.811 px

b = -0.038 px

c = 0.672 px

xc = 1.627 pxyc = 5.437 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19356.4946

Standard deviation: 7.94043

R^2: 0.98812 Parameters:

a = 110.32927

b = 556.78574

c = 61.93994

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

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

Frame size: 12 pixels

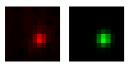
Coordinates: -110 um (x), -82.8 um (y), 61.4 um (z)

Corresponding bead: Not found

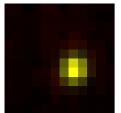
FWHM	Non corrected	Corrected	Theoretical
min	435 nm	453 nm	270 nm
max	496 nm	516 nm	270 nm
Z	2.3 um	2.31 um	1.3 um
Asymmetry	0.877		
Theta	83.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 391.849 (brightness)

B = 120.517 (background)

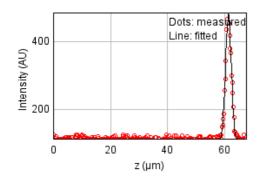
a = 0.708 px

b = 0.018 px

c = 0.548 px

xc = 7.106 pxyc = 6.656 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18437.5985

Standard deviation: 7.74967

R^2: 0.98235 Parameters: a = 112.67783 b = 483.37465

c = 61.39235

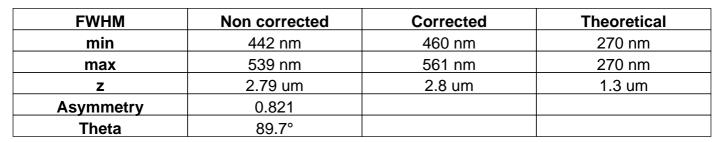
Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

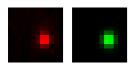
Coordinates: -148 um (x), -83.8 um (y), 61.8 um (z)

Corresponding bead: Not found

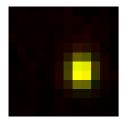


### XY profile & fitting parameters :

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



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



Parameters:

A = 520.432 (brightness)

B = 119.690 (background)

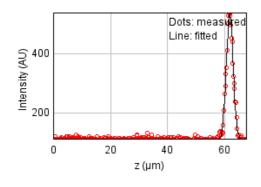
a = 0.687 px

b = 0.001 px

c = 0.463 px

xc = 7.463 pxyc = 6.552 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21515.3344

Standard deviation: 8.37153

R^2: 0.98703 Parameters: a = 111.47754 b = 538.98500

c = 61.84546

## Bead 3779 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -121 um (x), -84.6 um (y), 61.5 um (z)

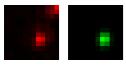
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

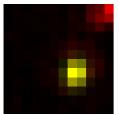
FWHM	Non corrected	Corrected	Theoretical
min	379 nm	395 nm	270 nm
max	481 nm	501 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.788		
Theta	81.7°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.577$$



Parameters:

A = 493.797 (brightness)

B = 133.097 (background)

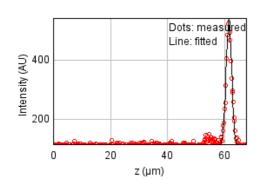
a = 0.927 px

b = 0.051 px

c = 0.588 px

xc = 7.376 pxyc = 7.027 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 35846.0271

Standard deviation: 10.80566

R^2: 0.97372 Parameters:

a = 113.59862

b = 540.51773

c = 61.53992

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

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

Frame size: 12 pixels

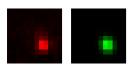
Coordinates: -106 um (x), -84.9 um (y), 61.4 um (z)

Corresponding bead: Not found

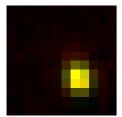
FWHM	Non corrected	Corrected	Theoretical
min	432 nm	449 nm	270 nm
max	514 nm	535 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.84		
Theta	-75.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 459.839 (brightness)

B = 122.261 (background)

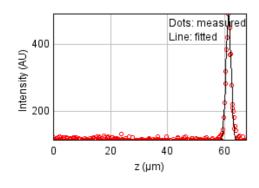
a = 0.707 px

b = -0.052 px

c = 0.522 px

xc = 7.385 pxyc = 7.452 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 19826.5401

Standard deviation: 8.03627

R^2: 0.97991 Parameters: a = 113.19303 b = 490.52434

0 - 400.0240

c = 61.42775

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

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

Frame size: 12 pixels

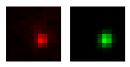
Coordinates: -107 um (x), -87.4 um (y), 61.5 um (z)

Corresponding bead: Not found

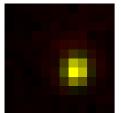
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	447 nm	270 nm
max	506 nm	527 nm	270 nm
Z	2.47 um	2.48 um	1.3 um
Asymmetry	0.847		
Theta	82.5°		

### XY profile & fitting parameters :

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



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



A = 372.968(brightness)

B = 119.731(background)

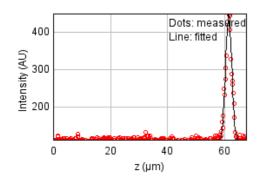
a = 0.726 px

b = 0.027 px

c = 0.527 px

xc = 7.297 pxyc = 6.775 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22764.1360

Standard deviation: 8.61106

R^2: 0.97574 Parameters: a = 112.28361

b = 450.62124

c = 61.47832

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

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

Frame size: 12 pixels

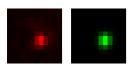
Coordinates: -105 um (x), -91.7 um (y), 61.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	511 nm	533 nm	270 nm
Z	2.2 um	2.21 um	1.3 um
Asymmetry	0.832		
Theta	83.2°		

### XY profile & fitting parameters :

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



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



A = 465.578 (brightness)

B = 123.635 (background)

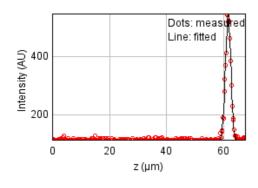
a = 0.739 px

b = 0.027 px

c = 0.516 px

xc = 6.892 pxyc = 6.481 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17406.2818

Standard deviation: 7.52981

R^2: 0.98720 Parameters: a = 112.50799 b = 545.76025

c = 61.62544

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

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

Frame size: 12 pixels

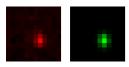
Coordinates: 155 um (x), -95.6 um (y), 60.4 um (z)

Corresponding bead: Not found

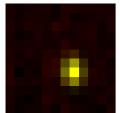
FWHM	Non corrected	Corrected	Theoretical
min	348 nm	362 nm	270 nm
max	472 nm	491 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.737		
Theta	-87.2°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 188.720 (brightness)

B = 111.680 (background)

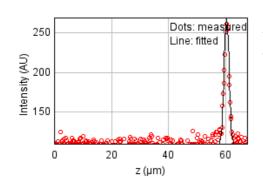
a = 1.108 px

b = -0.024 px

c = 0.604 px

xc = 6.871 pxyc = 6.916 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 13498.4990

Standard deviation: 6.63092

R^2: 0.92455 Parameters: a = 109.91644 b = 269.75491

c = 60.38757

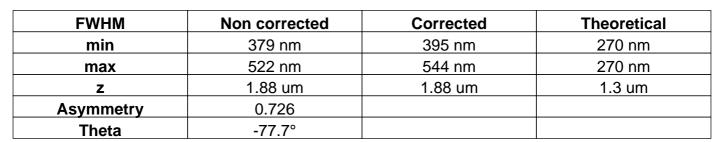
Date: Mon Oct 17 13:54:42 PDT 2022

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

Frame size: 12 pixels

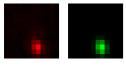
Coordinates: -25.1 um (x), 69.2 um (y), 58.3 um (z)

Corresponding bead: Not found

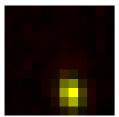


### XY profile & fitting parameters :

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



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



A = 376.238 (brightness)

B = 121.120 (background)

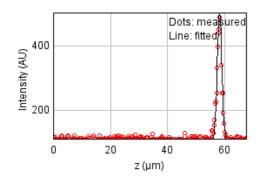
a = 0.914 px

b = -0.092 px

c = 0.512 px

xc = 6.742 pxyc = 9.076 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 29127.7152

Standard deviation: 9.74056

R^2: 0.96951 Parameters: a = 112.71791 b = 500.84119 c = 58.25769

## Bead 3785 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: 91.9 um (x), 48.7 um (y), 57.7 um (z)

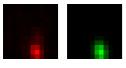
Corresponding bead: Not found

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

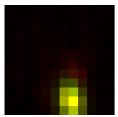
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	677 nm	705 nm	270 nm
Z	3.0 um	3.02 um	1.3 um
Asymmetry	0.637		
Theta	-81.0°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 685.473 (brightness)

B = 131.489 (background)

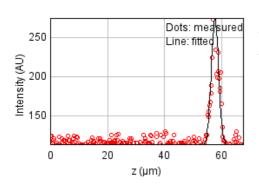
a = 0.711 px

b = -0.066 px

c = 0.303 px

xc = 6.767 pxyc = 9.963 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 28796.8446

Standard deviation: 9.68508

R^2: 0.89662 Parameters:

a = 113.68526

b = 275.08263

c = 57.70786

## Bead 3786 (Rejected)

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

Coordinates: 83.8 um (x), 41.6 um (y), 58.0 um (z)

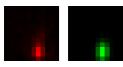
Corresponding bead: Not found

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

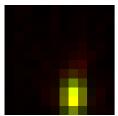
FWHM	Non corrected	Corrected	Theoretical
min	393 nm	409 nm	270 nm
max	640 nm	667 nm	270 nm
Z	3.33 um	3.34 um	1.3 um
Asymmetry	0.614		
Theta	87.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 682.180 (brightness) B = 133.209 (background)

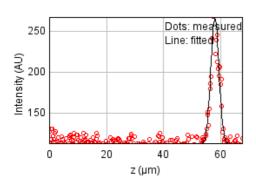
a = 0.868 px

b = 0.020 px

c = 0.328 px

xc = 7.031 pxyc = 9.491 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 20582.8698

Standard deviation: 8.18811

R^2: 0.92463 Parameters:

a = 112.17503

b = 266.96229

c = 58.04429

## Bead 3787 (Rejected)

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

Coordinates: 135 um (x), 35.0 um (y), 58.0 um (z)

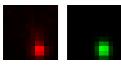
Corresponding bead: Not found

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

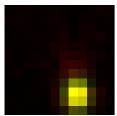
FWHM	Non corrected	Corrected	Theoretical
min	434 nm	452 nm	270 nm
max	565 nm	589 nm	270 nm
Z	3.23 um	3.24 um	1.3 um
Asymmetry	0.769		
Theta	-87.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 673.522 (brightness)

B = 129.410 (background)

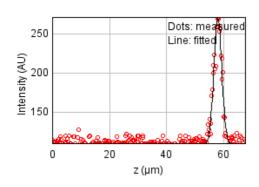
a = 0.711 px

b = -0.014 px

c = 0.421 px

xc = 7.431 pxyc = 9.273 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 16253.9544

Standard deviation: 7.27630

R^2: 0.94228 Parameters:

a = 109.94605

b = 270.76761

c = 58.02077

## Bead 3788 (Rejected)

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

Coordinates: 110 um (x), 29.8 um (y), 58.2 um (z)

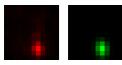
Corresponding bead: Not found

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

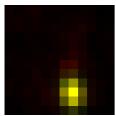
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	548 nm	571 nm	270 nm
Z	3.74 um	3.76 um	1.3 um
Asymmetry	0.711		
Theta	-83.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 444.400 (brightness)

B = 119.710 (background)

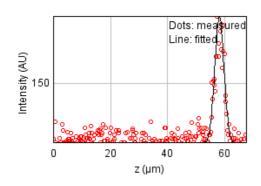
a = 0.879 px

b = -0.051 px

c = 0.453 px

xc = 6.883 pxyc = 9.074 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 16085.5289

Standard deviation: 7.23850

R^2: 0.83790 Parameters:

a = 110.61924

b = 194.76242

c = 58.21286

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

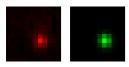
Coordinates: -161 um (x), -46.5 um (y), 61.4 um (z)

Corresponding bead: Not found

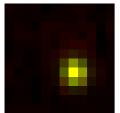
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	485 nm	505 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.871		
Theta	-78.4°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.930$$



A = 275.810 (brightness)

B = 115.133 (background)

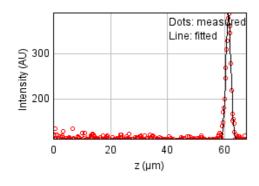
a = 0.747 px

b = -0.036 px

c = 0.579 px

xc = 7.163 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: 15436.0741

Standard deviation: 7.09087

R^2: 0.97167 Parameters:

a = 110.73449

b = 391.29202

c = 61.37542

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

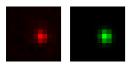
Coordinates: -151 um (x), -66.8 um (y), 61.6 um (z)

Corresponding bead: Not found

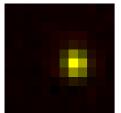
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	416 nm	270 nm
max	466 nm	485 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.857		
Theta	-78.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 528.417 (brightness)

B = 119.370 (background)

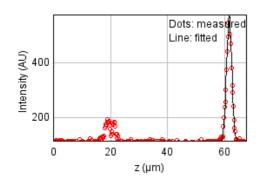
a = 0.832 px

b = -0.043 px

c = 0.626 px

xc = 7.234 pxyc = 6.050 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 93045.4376

Standard deviation: 17.40918

R^2: 0.93962 Parameters: a = 115.39624 b = 573.72167

c = 61.63094

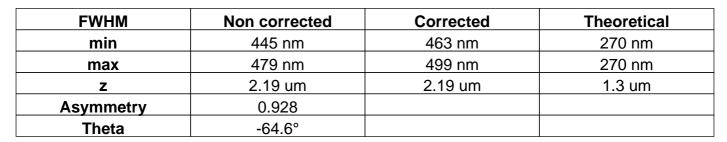
Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

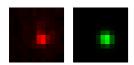
Coordinates: -122 um (x), -69.7 um (y), 61.4 um (z)

Corresponding bead: Not found

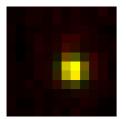


### XY profile & fitting parameters :

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



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



Parameters:

A = 301.091 (brightness)

B = 117.294 (background)

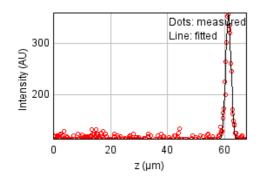
a = 0.661 px

b = -0.037 px

c = 0.601 px

xc = 6.719 pxyc = 6.406 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19090.4978

Standard deviation: 7.88569

R^2: 0.95769 Parameters:

a = 112.67868

b = 359.17250

c = 61.36598

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

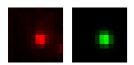
Coordinates: -153 um (x), -82.3 um (y), 62.0 um (z)

Corresponding bead: Not found

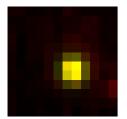
FWHM	Non corrected	Corrected	Theoretical
min	446 nm	465 nm	270 nm
max	490 nm	510 nm	270 nm
Z	2.32 um	2.33 um	1.3 um
Asymmetry	0.911		
Theta	-79.8°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.913$$



A = 477.514 (brightness)

B = 126.244 (background)

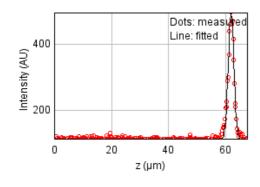
a = 0.670 px

b = -0.020 px

c = 0.563 px

xc = 6.643 pxyc = 6.431 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 20650.0233

Standard deviation: 8.20146

R^2: 0.98196 Parameters:

a = 111.16677

b = 497.85620

c = 61.95589

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

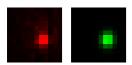
Coordinates: -127 um (x), -83.6 um (y), 61.6 um (z)

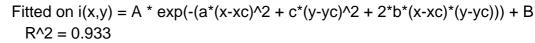
Corresponding bead: Not found

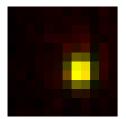
FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	532 nm	554 nm	270 nm
Z	2.75 um	2.76 um	1.3 um
Asymmetry	0.827		
Theta	86.1°		

### XY profile & fitting parameters :

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







Parameters:

A = 345.234 (brightness)

B = 114.490 (background)

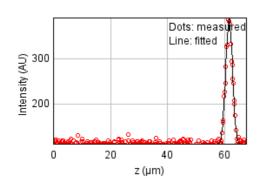
a = 0.693 px

b = 0.015 px

c = 0.476 px

xc = 7.418 pxyc = 6.544 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15169.5453

Standard deviation: 7.02938

R^2: 0.97849 Parameters:

a = 110.93315

b = 390.35987

c = 61.61978

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

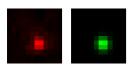
Coordinates: -108 um (x), -93.7 um (y), 61.9 um (z)

Corresponding bead: Not found

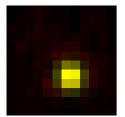
FWHM	Non corrected	Corrected	Theoretical
min	448 nm	466 nm	270 nm
max	486 nm	506 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.921		
Theta	-81.5°		

### XY profile & fitting parameters :

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



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



A = 414.338 (brightness)

B = 119.123 (background)

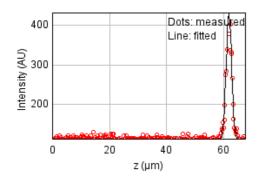
a = 0.668 px

b = -0.015 px

c = 0.571 px

xc = 6.464 pxyc = 7.252 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 29586.8858

Standard deviation: 9.81704

R^2: 0.96198 Parameters:

a = 111.71438

b = 432.54682

c = 61.89114

## Bead 3795 (Rejected)

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

Coordinates: 151 um (x), -94.4 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	423 nm	441 nm	270 nm
max	466 nm	485 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.909		
Theta	30.4°		

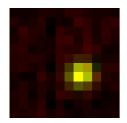
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.814$$



Parameters:

A = 101.260 (brightness)

B = 112.030 (background)

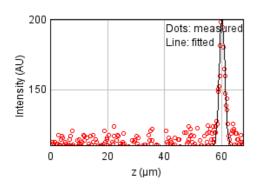
a = 0.652 px

b = 0.057 px

c = 0.715 px

xc = 7.317 pxyc = 6.722 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 11933.2280

Standard deviation: 6.23462

R^2: 0.83786

Parameters:

a = 110.14615

b = 200.88897

c = 60.18663

# Bead 3796 (Rejected)

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

Coordinates: 93.9 um (x), -94.9 um (y), 59.1 um (z)

Corresponding bead: Not found

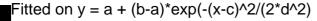
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.23 um	3.24 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

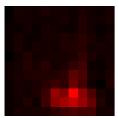
### XY profile & fitting parameters :

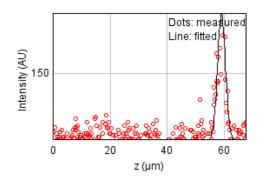
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 14404.8781

Standard deviation: 6.84992

R^2: 0.79630 Parameters: a = 111.35820 b = 185.46320 c = 59.10075

# Bead 3797 (Rejected)

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

Coordinates: -153 um (x), -95.1 um (y), 62.2 um (z)

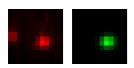
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

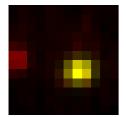
FWHM	Non corrected	Corrected	Theoretical
min	445 nm	463 nm	270 nm
max	496 nm	517 nm	270 nm
Z	2.72 um	2.73 um	1.3 um
Asymmetry	0.896		
Theta	8.3°		

### XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.763$ 



Parameters:

A = 518.503 (brightness)

B = 134.985 (background)

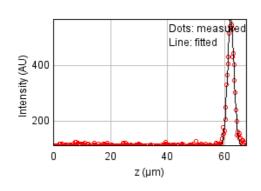
a = 0.548 px

b = 0.019 px

c = 0.675 px

xc = 7.241 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: 22519.4434

Standard deviation: 8.56465

R^2: 0.98783 Parameters:

a = 111.29578

b = 568.67899

c = 62.21559

## Bead 3798 (Rejected)

Date: Mon Oct 17 13:54:43 PDT 2022

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

Frame size: 12 pixels

Coordinates: 93.9 um (x), -95.5 um (y), 59.2 um (z)

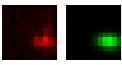
Corresponding bead: Not found

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

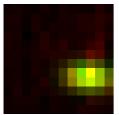
FWHM	Non corrected	Corrected	Theoretical
min	511 nm	532 nm	270 nm
max	825 nm	859 nm	270 nm
Z	1.75 um	1.76 um	1.3 um
Asymmetry	0.62		
Theta	-3.5°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.867$$



Parameters:

A = 210.747 (brightness)

B = 117.806 (background)

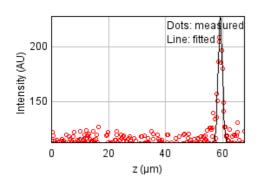
a = 0.199 px

b = -0.019 px

c = 0.512 px

xc = 8.818 pxyc = 7.447 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 12299.0580

Standard deviation: 6.32946

R^2: 0.86170 Parameters:

a = 112.33714

b = 227.73073

c = 59.22220

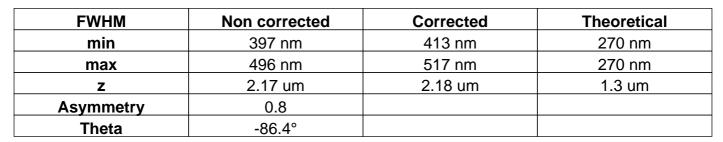
Date: Mon Oct 17 13:54:44 PDT 2022

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

Frame size: 12 pixels

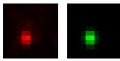
Coordinates: -120 um (x), 82.8 um (y), 58.5 um (z)

Corresponding bead: Not found



### XY profile & fitting parameters :

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





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



Parameters:

A = 551.122 (brightness)

B = 123.308 (background)

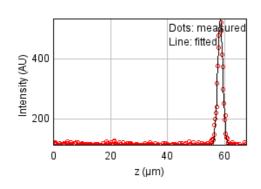
a = 0.851 px

b = -0.019 px

c = 0.546 px

xc = 4.543 pxyc = 7.073 px

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



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

Sum of residuals squared: 17554.6825

Standard deviation: 7.56184

R^2: 0.98624 Parameters: a = 111.97346b = 533.91630

c = 58.50351

# Bead 3800 (Rejected)

Date: Mon Oct 17 13:54:44 PDT 2022

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

Frame size: 12 pixels

Coordinates: 95.3 um (x), 31.3 um (y), 58.1 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.87 um	3.89 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

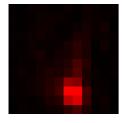
### XY profile & fitting parameters :

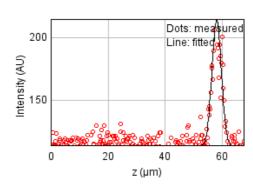
(red: the original data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 20364.0296

Standard deviation: 8.14447

R^2: 0.86019 Parameters: a = 113.17866 b = 214.89524 c = 58.10912