# Bead 1901 (Rejected)

Date: Mon Oct 17 13:52:41 PDT 2022

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

Frame size: 12 pixels

Coordinates: -101 um (x), 14.5 um (y), 35.6 um (z)

Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	465 nm	484 nm	270 nm
max	653 nm	680 nm	270 nm
Z	2.87 um	2.88 um	1.3 um
Asymmetry	0.712		
Theta	-70.0°		

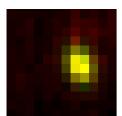
## XY profile & fitting parameters :

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





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



Parameters:

A = 241.949 (brightness)

B = 121.728 (background)

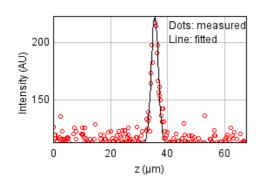
a = 0.585 px

b = -0.099 px

c = 0.350 px

xc = 7.525 pxyc = 5.613 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15547.4940

Standard deviation: 7.11641

R^2: 0.87769 Parameters:

a = 112.73508

b = 222.91506

c = 35.60512

# Bead 1902 (Rejected)

Date: Mon Oct 17 13:52:41 PDT 2022

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

Frame size: 12 pixels

Coordinates: -164 um (x), -2.37 um (y), 35.6 um (z)

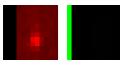
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

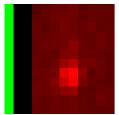
FWHM	Non corrected	Corrected	Theoretical
min	2.7 um	2.82 um	270 nm
max	6.23 um	6.49 um	270 nm
Z	2.16 um	2.17 um	1.3 um
Asymmetry	0.434		
Theta	89.4°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.752$$



Parameters:

A = 275.459 (brightness)

B = -115.062 (background)

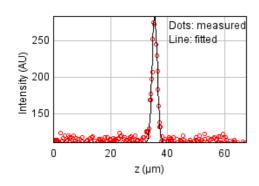
a = 0.018 px

b = 0.000 px

c = 0.003 px

xc = 7.224 pxyc = 6.265 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 13204.7171

Standard deviation: 6.55836

R^2: 0.94181 Parameters:

a = 110.40121

b = 284.77875

c = 35.55537

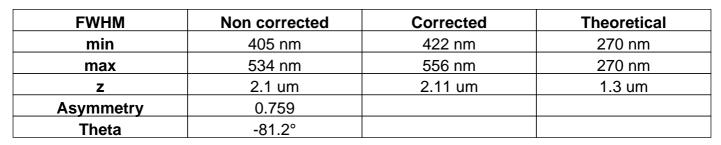
Date: Mon Oct 17 13:52:42 PDT 2022

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

Frame size: 12 pixels

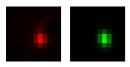
Coordinates: 38.1 um (x), -5.52 um (y), 36.3 um (z)

Corresponding bead: Not found



## XY profile & fitting parameters :

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



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



Parameters:

A = 600.874 (brightness)

B = 118.318 (background)

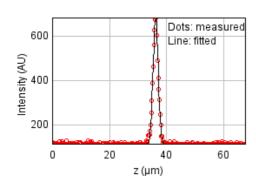
a = 0.808 px

b = -0.052 px

c = 0.479 px

xc = 7.032 pxyc = 6.611 px

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



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

Sum of residuals squared: 21300.2928

Standard deviation: 8.32959

R^2: 0.99058 Parameters: a = 113.81287

b = 685.16824

c = 36.25633

# Bead 1904 (Rejected)

Date: Mon Oct 17 13:52:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: -75.3 um (x), -22.8 um (y), 33.1 um (z)

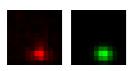
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	459 nm	478 nm	270 nm
max	573 nm	597 nm	270 nm
Z	3.75 um	3.77 um	1.3 um
Asymmetry	0.801		
Theta	-6.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 417.657 (brightness)

B = 123.253 (background)

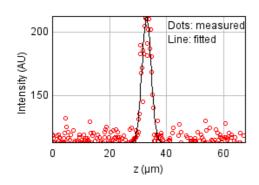
a = 0.411 px

b = -0.026 px

c = 0.633 px

xc = 6.636 pxyc = 9.139 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17453.5627

Standard deviation: 7.54003

R^2: 0.86751 Parameters:

a = 113.42360

b = 211.99768

c = 33.07389

# Bead 1905 (Rejected)

Date: Mon Oct 17 13:52:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: -90.4 um (x), -27.4 um (y), 31.8 um (z)

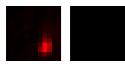
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	2.47 um	2.58 um	270 nm
max	4.2 um	4.37 um	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.589		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.266$$



Parameters:

A = -100.423 (brightness)

B = 214.316 (background)

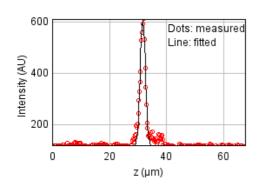
a = 0.011 px

b = 0.014 px

c = 0.004 px

xc = 2.302 pxyc = 3.021 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 64230.8884

Standard deviation: 14.46448

R^2: 0.96295 Parameters:

a = 117.37138

b = 611.60254

c = 31.75273

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

Frame size: 12 pixels

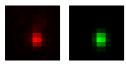
Coordinates: 68.7 um (x), -30.7 um (y), 36.5 um (z)

Corresponding bead: Not found

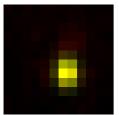
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	407 nm	270 nm
max	521 nm	542 nm	270 nm
Z	2.17 um	2.18 um	1.3 um
Asymmetry	0.75		
Theta	-89.3°		

## XY profile & fitting parameters :

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



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



A = 639.001 (brightness)

B = 124.397 (background)

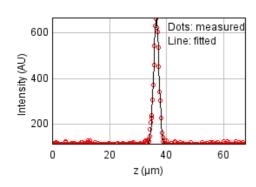
a = 0.880 px

b = -0.005 px

c = 0.495 px

xc = 6.411 pxyc = 6.905 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19493.9601

Standard deviation: 7.96858

R^2: 0.99104 Parameters:

a = 114.25892

b = 666.78909

c = 36.49013

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

Frame size: 12 pixels

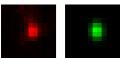
Coordinates: 46.3 um (x), -35.4 um (y), 13.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	429 nm	447 nm	270 nm
max	590 nm	614 nm	270 nm
Z	2.27 um	2.28 um	1.3 um
Asymmetry	0.727		
Theta	-87.3°		

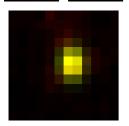
## XY profile & fitting parameters :

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





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



Parameters:

A = 507.130 (brightness)

B = 122.507 (background)

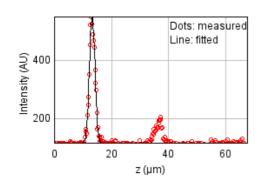
a = 0.729 px

b = -0.016 px

c = 0.386 px

xc = 6.413 pxyc = 5.255 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 87141.3296

Standard deviation: 16.84779

R^2: 0.94043 Parameters:

a = 118.05836

b = 550.00375

c = 13.32272

# Bead 1908 (Rejected)

Date: Mon Oct 17 13:52:42 PDT 2022

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

Frame size: 12 pixels

Coordinates: 4.57 um (x), -54.8 um (y), 32.9 um (z)

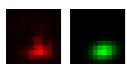
Corresponding bead: Not found

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

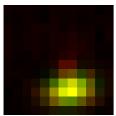
FWHM	Non corrected	Corrected	Theoretical
min	552 nm	575 nm	270 nm
max	827 nm	862 nm	270 nm
Z	3.52 um	3.54 um	1.3 um
Asymmetry	0.668		
Theta	9.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 333.478 (brightness) B = 124.037 (background)

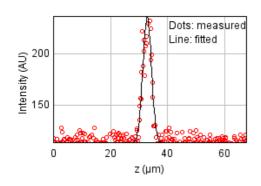
a = 0.203 px

b = 0.039 px

c = 0.433 px

xc = 6.774 pxyc = 8.732 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17639.3892

Standard deviation: 7.58006

R^2: 0.90489 Parameters:

a = 113.36900

b = 236.30756

c = 32.93344

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

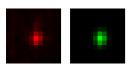
Coordinates: -160 um (x), -71.6 um (y), 36.1 um (z)

Corresponding bead: Not found

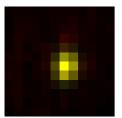
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	407 nm	270 nm
max	519 nm	540 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.754		
Theta	84.0°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 373.076 (brightness)

B = 120.371 (background)

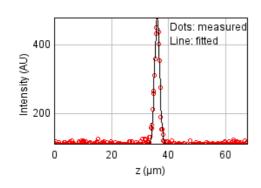
a = 0.873 px

b = 0.039 px

c = 0.503 px

xc = 6.212 pxyc = 6.027 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19218.1131

Standard deviation: 7.91200

R^2: 0.97948 Parameters: a = 110.83892 b = 479.95698 c = 36.07997

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

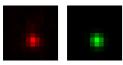
Coordinates: 6.62 um (x), -78.3 um (y), 36.9 um (z)

Corresponding bead: Not found

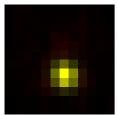
FWHM	Non corrected	Corrected	Theoretical
min	427 nm	445 nm	270 nm
max	471 nm	490 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.908		
Theta	-72.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 636.939 (brightness)

B = 125.212 (background)

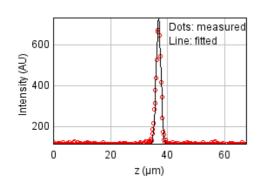
a = 0.723 px

b = -0.037 px

c = 0.617 px

xc = 6.076 pxyc = 7.237 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32660.0619

Standard deviation: 10.31429

R^2: 0.98682 Parameters:

a = 113.38917

b = 735.65551

c = 36.92128

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

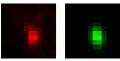
Coordinates: 84.6 um (x), 91.9 um (y), 36.5 um (z)

Corresponding bead: Not found

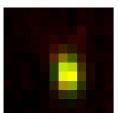
FWHM	Non corrected	Corrected	Theoretical
min	434 nm	453 nm	270 nm
max	665 nm	693 nm	270 nm
Z	2.19 um	2.2 um	1.3 um
Asymmetry	0.653		
Theta	-81.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 279.628 (brightness)

B = 120.189 (background)

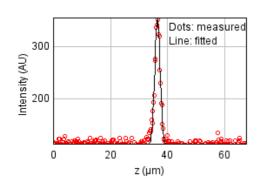
a = 0.702 px

b = -0.061 px

c = 0.313 px

xc = 6.499 pxyc = 6.709 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 15953.8369

Standard deviation: 7.20881

R^2: 0.96295 Parameters: a = 113.88106 b = 354.79850

c = 36.54202

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

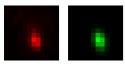
Coordinates: 68.3 um (x), 87.2 um (y), 36.9 um (z)

Corresponding bead: Not found

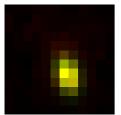
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	409 nm	270 nm
max	634 nm	660 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.619		
Theta	-75.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 495.962 (brightness)

B = 122.781 (background)

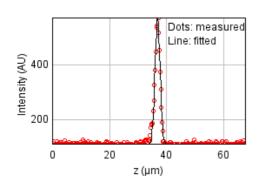
a = 0.840 px

b = -0.127 px

c = 0.366 px

xc = 6.377 pxyc = 7.161 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21991.0219

Standard deviation: 8.46357

R^2: 0.98467 Parameters: a = 113.51805 b = 568.62492

c = 36.92244

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

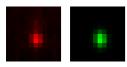
Coordinates: -137 um (x), 50.1 um (y), 36.5 um (z)

Corresponding bead: Not found

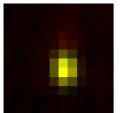
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	553 nm	576 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.741		
Theta	-86.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 454.644 (brightness)

B = 119.311 (background)

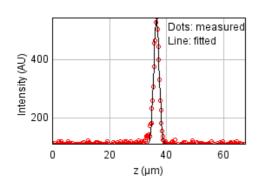
a = 0.799 px

b = -0.022 px

c = 0.440 px

xc = 6.173 pxyc = 6.645 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18569.1190

Standard deviation: 7.77726

R^2: 0.98620 Parameters: a = 112.70757 b = 540.85667

c = 36.53395

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

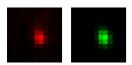
Coordinates: 38.2 um (x), 37.1 um (y), 37.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	418 nm	270 nm
max	566 nm	589 nm	270 nm
Z	1.8 um	1.81 um	1.3 um
Asymmetry	0.71		
Theta	-77.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 670.423 (brightness)

B = 124.665 (background)

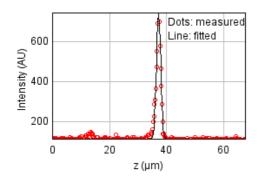
a = 0.811 px

b = -0.089 px

c = 0.439 px

xc = 6.655 pxyc = 6.082 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 43907.4883

Standard deviation: 11.95914

R^2: 0.98156 Parameters:

a = 115.94538

b = 745.16029

c = 37.27257

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

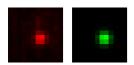
Coordinates: -136 um (x), 14.8 um (y), 36.7 um (z)

Corresponding bead: Not found

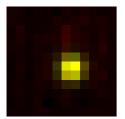
FWHM	Non corrected	Corrected	Theoretical
min	438 nm	456 nm	270 nm
max	458 nm	477 nm	270 nm
Z	1.88 um	1.88 um	1.3 um
Asymmetry	0.955		
Theta	-86.7°		

## XY profile & fitting parameters :

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



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



A = 354.583 (brightness)

B = 119.330 (background)

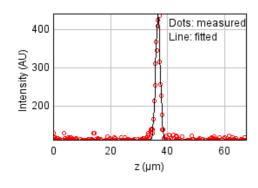
a = 0.701 px

b = -0.004 px

c = 0.640 px

xc = 6.577 pxyc = 6.242 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22748.3965

Standard deviation: 8.60808

R^2: 0.96700 Parameters: a = 111.62183 b = 440.81215

c = 36.70463

Date: Mon Oct 17 13:52:43 PDT 2022

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

Frame size: 12 pixels

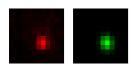
Coordinates: 18.9 um (x), 12.9 um (y), 36.6 um (z)

Corresponding bead: Not found

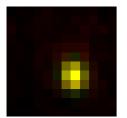
FWHM	Non corrected	Corrected	Theoretical
min	431 nm	449 nm	270 nm
max	528 nm	550 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.816		
Theta	-79.8°		

## XY profile & fitting parameters :

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



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



A = 394.958 (brightness)

B = 122.076 (background)

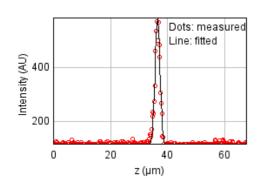
a = 0.715 px

b = -0.042 px

c = 0.489 px

xc = 6.827 pxyc = 7.033 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36472.7591

Standard deviation: 10.89971

R^2: 0.97576 Parameters: a = 114.30726

b = 585.81821

c = 36.57543

Date: Mon Oct 17 13:52:44 PDT 2022

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

Frame size: 12 pixels

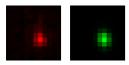
Coordinates: -125 um (x), -13.1 um (y), 37.1 um (z)

Corresponding bead: Not found

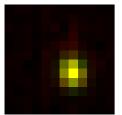
FWHM	Non corrected	Corrected	Theoretical
min	415 nm	433 nm	270 nm
max	536 nm	558 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.775		
Theta	-80.0°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 411.332 (brightness)

B = 115.461 (background)

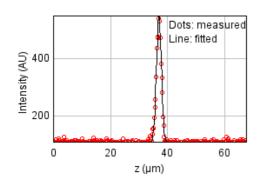
a = 0.769 px

b = -0.053 px

c = 0.477 px

xc = 6.902 pxyc = 6.879 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17425.9320

Standard deviation: 7.53406

R^2: 0.98636 Parameters: a = 111.60953 b = 548.11250

c = 37.05148

Date: Mon Oct 17 13:52:44 PDT 2022

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

Frame size: 12 pixels

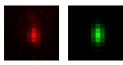
Coordinates: 131 um (x), -24.7 um (y), 36.0 um (z)

Corresponding bead: Not found

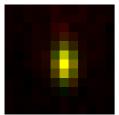
FWHM	Non corrected	Corrected	Theoretical
min	376 nm	391 nm	270 nm
max	648 nm	675 nm	270 nm
Z	2.62 um	2.63 um	1.3 um
Asymmetry	0.58		
Theta	-89.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 346.068 (brightness)

B = 119.965 (background)

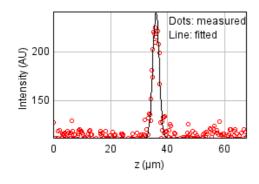
a = 0.951 px

b = -0.009 px

c = 0.320 px

xc = 6.062 pxyc = 5.900 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18918.0332

Standard deviation: 7.84998

R^2: 0.88404 Parameters:

a = 111.21612

b = 241.88621

c = 36.01550

Date: Mon Oct 17 13:52:44 PDT 2022

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

Frame size: 12 pixels

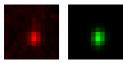
Coordinates: 152 um (x), -87.8 um (y), 35.5 um (z)

Corresponding bead: Not found

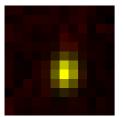
FWHM	Non corrected	Corrected	Theoretical
min	418 nm	435 nm	270 nm
max	567 nm	591 nm	270 nm
Z	1.91 um	1.92 um	1.3 um
Asymmetry	0.737		
Theta	84.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 164.985 (brightness)

B = 110.636 (background)

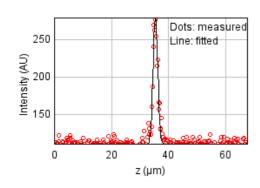
a = 0.766 px

b = 0.032 px

c = 0.420 px

xc = 6.137 pxyc = 6.789 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 14870.7679

Standard deviation: 6.95981

R^2: 0.92333 Parameters: a = 110.54505 b = 279.65554

c = 35.47649

# Bead 1920 (Rejected)

Date: Mon Oct 17 13:52:44 PDT 2022

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

Frame size: 12 pixels

Coordinates: -2.67 um (x), 76.7 um (y), 37.4 um (z)

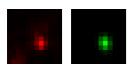
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

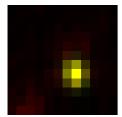
FWHM	Non corrected	Corrected	Theoretical
min	376 nm	391 nm	270 nm
max	485 nm	505 nm	270 nm
Z	2.03 um	2.04 um	1.3 um
Asymmetry	0.775		
Theta	-80.5°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.891$$



Parameters:

A = 679.684 (brightness)

B = 140.461 (background)

a = 0.940 px

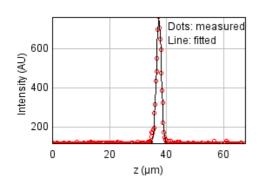
b = -0.062 px

c = 0.581 px

xc = 6.873 px

yc = 6.950 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25787.3478

Standard deviation: 9.16504

R^2: 0.99088

Parameters:

a = 114.17020

b = 763.87302

c = 37.36773

# Bead 1921 (Rejected)

Date: Mon Oct 17 13:52:44 PDT 2022

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

Frame size: 12 pixels

Coordinates: 10.6 um (x), 46.1 um (y), 3.96 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	3.57 um	3.59 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

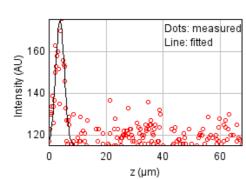
(red: the original data, green: the fit, yellow: the two merged)



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

# Z profile & fitting parameters:





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

Sum of residuals squared: 18300.1351

Standard deviation: 7.72072

R^2: 0.69293 Parameters: a = 114.87869

b = 175.42482

c = 3.95578

-1 4 54000

Date: Mon Oct 17 13:52:45 PDT 2022

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

Frame size: 12 pixels

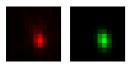
Coordinates: 93.0 um (x), 25.0 um (y), 37.0 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	419 nm	270 nm
max	616 nm	642 nm	270 nm
Z	1.94 um	1.94 um	1.3 um
Asymmetry	0.653		
Theta	-80.1°		

## XY profile & fitting parameters :

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



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



A = 463.387 (brightness)

B = 120.122 (background)

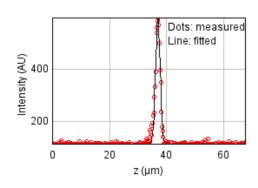
a = 0.815 px

b = -0.081 px

c = 0.368 px

xc = 6.828 pxyc = 6.897 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 31024.7905

Standard deviation: 10.05276

R^2: 0.97973 Parameters:

a = 113.76662

b = 600.12421

c = 37.02522

Date: Mon Oct 17 13:52:45 PDT 2022

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

Frame size: 12 pixels

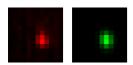
Coordinates: -145 um (x), 15.4 um (y), 36.5 um (z)

Corresponding bead: Not found

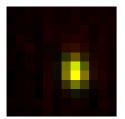
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	425 nm	270 nm
max	551 nm	574 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.742		
Theta	-82.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 306.971 (brightness)

B = 115.679 (background)

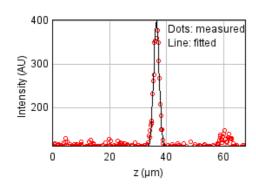
a = 0.799 px

b = -0.044 px

c = 0.448 px

xc = 6.975 pxyc = 6.621 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 25206.0439

Standard deviation: 9.06115

R^2: 0.95982 Parameters:

a = 113.10249

b = 401.26457

c = 36.51980

# Bead 1924 (Rejected)

Date: Mon Oct 17 13:52:45 PDT 2022

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

Frame size: 12 pixels

Coordinates: -101 um (x), 14.5 um (y), 35.6 um (z)

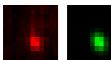
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	448 nm	466 nm	270 nm
max	628 nm	654 nm	270 nm
Z	2.87 um	2.88 um	1.3 um
Asymmetry	0.712		
Theta	-69.6°		

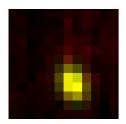
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.902$$



Parameters:

A = 243.660 (brightness)

B = 125.541(background)

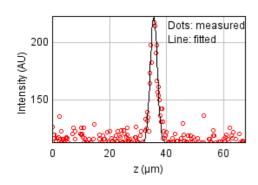
a = 0.630 px

b = -0.108 px

c = 0.380 px

xc = 6.523 pxyc = 7.623 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15547.4940

Standard deviation: 7.11641

R^2: 0.87769 Parameters:

a = 112.73508

b = 222.91506

c = 35.60512

# Bead 1925 (Rejected)

Date: Mon Oct 17 13:52:45 PDT 2022

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

Frame size: 12 pixels

Coordinates: 71.4 um (x), 339 nm (y), 33.5 um (z)

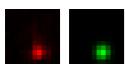
Corresponding bead: Not found

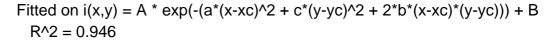
Reason of rejection: The fitted bead is likely to be a different bead from the center bead.

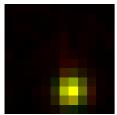
FWHM	Non corrected	Corrected	Theoretical
min	489 nm	509 nm	270 nm
max	529 nm	550 nm	270 nm
Z	3.63 um	3.65 um	1.3 um
Asymmetry	0.925		
Theta	74.4°		

## XY profile & fitting parameters :

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







Parameters:

A = 582.228 (brightness)

B = 124.658 (background)

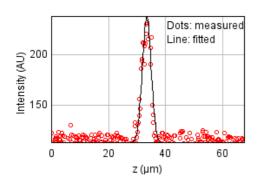
a = 0.555 px

b = 0.021 px

c = 0.486 px

xc = 6.769 pxyc = 8.961 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 22120.6977

Standard deviation: 8.48849

R^2: 0.89166 Parameters:

a = 112.37566

b = 238.62872

c = 33.48127

# Bead 1926 (Rejected)

Date: Mon Oct 17 13:52:45 PDT 2022

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

Frame size: 12 pixels

Coordinates: -129 um (x), -7.72 um (y), 33.1 um (z)

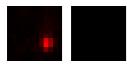
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	2.1 um	2.18 um	270 nm
max	3.62 um	3.77 um	270 nm
Z	2.21 um	2.22 um	1.3 um
Asymmetry	0.578		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.123$$



Parameters:

A = -53.674 (brightness)

B = 169.057 (background)

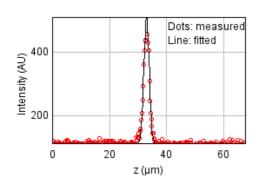
a = 0.019 px

b = 0.019 px

c = 0.002 px

xc = 1.837 pxyc = 3.580 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 22597.1695

Standard deviation: 8.57942

R^2: 0.98047 Parameters:

a = 112.62393

b = 509.57000

c = 33.05437

# Bead 1927 (Rejected)

Date: Mon Oct 17 13:52:45 PDT 2022

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

Frame size: 12 pixels

Coordinates: -92.0 um (x), -37.4 um (y), 33.5 um (z)

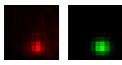
Corresponding bead: Not found

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

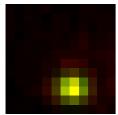
FWHM	Non corrected	Corrected	Theoretical
min	473 nm	493 nm	270 nm
max	539 nm	562 nm	270 nm
Z	3.86 um	3.87 um	1.3 um
Asymmetry	0.878		
Theta	-4.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.888$$



Parameters:

A = 369.132 (brightness)
B = 129.647 (background)

a = 0.462 px

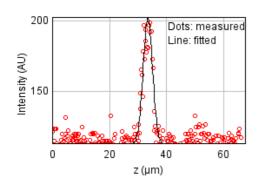
b = -0.011 px

D = -0.011 px

c = 0.598 px

xc = 6.790 pxyc = 8.692 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16850.7835

Standard deviation: 7.40868

R^2: 0.85122 Parameters:

a = 113.14673

b = 202.55448

c = 33.52169

Date: Mon Oct 17 13:52:45 PDT 2022

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

Frame size: 12 pixels

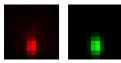
Coordinates: 130 um (x), -45.6 um (y), 37.0 um (z)

Corresponding bead: Not found

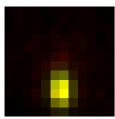
FWHM	Non corrected	Corrected	Theoretical
min	390 nm	407 nm	270 nm
max	618 nm	644 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.632		
Theta	-88.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 549.541 (brightness)

B = 127.263 (background)

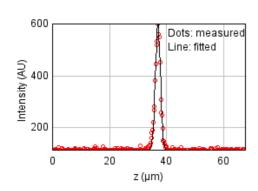
a = 0.880 px

b = -0.015 px

c = 0.352 px

xc = 5.641 pxyc = 8.588 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 26010.5270

Standard deviation: 9.20461

R^2: 0.98443 Parameters: a = 111.38505 b = 603.54684 c = 37.04097

Date: Mon Oct 17 13:52:46 PDT 2022

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

Frame size: 12 pixels

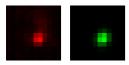
Coordinates: 62.6 um (x), -47.8 um (y), 36.7 um (z)

Corresponding bead: Not found

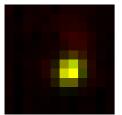
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	493 nm	514 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.838		
Theta	60.1°		

## 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 = 435.209 (brightness)

B = 119.053 (background)

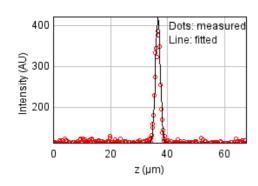
a = 0.726 px

b = 0.101 px

c = 0.609 px

xc = 6.662 pxyc = 6.715 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 31412.9687

Standard deviation: 10.11545

R^2: 0.95200 Parameters: a = 112.87208

b = 421.71754

c = 36.68886

Date: Mon Oct 17 13:52:46 PDT 2022

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

Frame size: 12 pixels

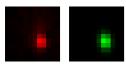
Coordinates: 136 um (x), -52.7 um (y), 37.3 um (z)

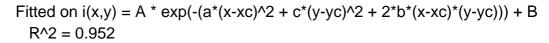
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	397 nm	413 nm	270 nm
max	573 nm	596 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.692		
Theta	-83.0°		

## XY profile & fitting parameters :

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







Parameters:

A = 662.379 (brightness)

B = 122.266 (background)

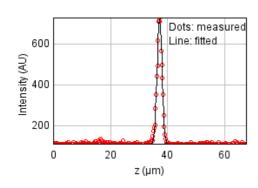
a = 0.847 px

b = -0.054 px

c = 0.416 px

xc = 7.375 pxyc = 7.150 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 22973.6442

Standard deviation: 8.65059

R^2: 0.99097 Parameters: a = 112.71001 b = 727.97463

c = 37.26978

# Bead 1931 (Rejected)

Date: Mon Oct 17 13:52:46 PDT 2022

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

Frame size: 12 pixels

Coordinates: -53.8 um (x), -76.1 um (y), 33.5 um (z)

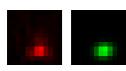
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	481 nm	501 nm	270 nm
max	621 nm	647 nm	270 nm
Z	3.1 um	3.11 um	1.3 um
Asymmetry	0.774		
Theta	8.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 456.020 (brightness) B = 126.086 (background)

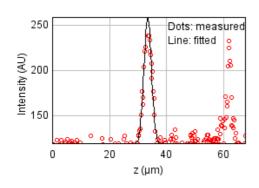
a = 0.354 px

b = 0.036 px

c = 0.575 px

xc = 6.659 pxyc = 8.403 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 86147.7875

Standard deviation: 16.75147

R^2: 0.68866 Parameters:

a = 119.36819

b = 258.27099

c = 33.46620

Date: Mon Oct 17 13:52:46 PDT 2022

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

Frame size: 12 pixels

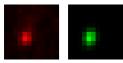
Coordinates: 160 um (x), -82.6 um (y), 34.0 um (z)

Corresponding bead: Not found

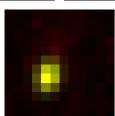
FWHM	Non corrected	Corrected	Theoretical
min	413 nm	430 nm	270 nm
max	560 nm	583 nm	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.737		
Theta	75.8°		

## XY profile & fitting parameters :

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



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



A = 270.821 (brightness)

B = 112.974 (background)

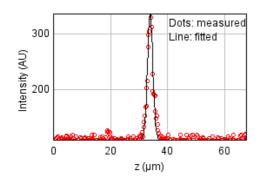
a = 0.766 px

b = 0.086 px

c = 0.450 px

xc = 4.266 pxyc = 6.754 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22761.8501

Standard deviation: 8.61062

R^2: 0.94228 Parameters:

a = 109.51928

b = 336.27100

c = 33.97759

Date: Mon Oct 17 13:52:46 PDT 2022

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

Frame size: 12 pixels

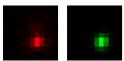
Coordinates: -18.0 um (x), -84.0 um (y), 37.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	419 nm	436 nm	270 nm
max	475 nm	495 nm	270 nm
Z	2.02 um	2.03 um	1.3 um
Asymmetry	0.881		
Theta	66.7°		

### XY profile & fitting parameters :

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





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



Parameters:

A = 731.958(brightness)

B = 127.355(background)

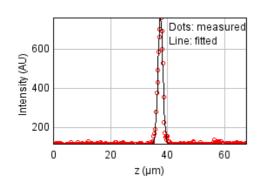
a = 0.738 px

b = 0.062 px

c = 0.620 px

xc = 7.058 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: 36965.2936

Standard deviation: 10.97306

R^2: 0.98685 Parameters: a = 113.25910b = 760.95485c = 37.57774

Date: Mon Oct 17 13:52:46 PDT 2022

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

Frame size: 12 pixels

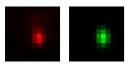
Coordinates: 101 um (x), 55.1 um (y), 37.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	598 nm	623 nm	270 nm
Z	1.88 um	1.89 um	1.3 um
Asymmetry	0.685		
Theta	-86.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 546.375 (brightness)

B = 124.908 (background)

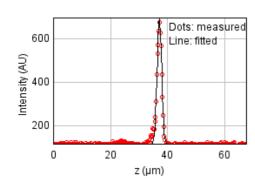
a = 0.797 px

b = -0.027 px

c = 0.376 px

xc = 6.878 pxyc = 6.215 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 33131.9501

Standard deviation: 10.38854

R^2: 0.98436 Parameters: a = 114.07422 b = 695.68435

c = 37.20762

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

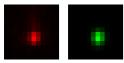
Coordinates: -32.8 um (x), -22.5 um (y), 37.3 um (z)

Corresponding bead: Not found

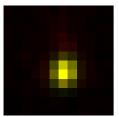
FWHM	Non corrected	Corrected	Theoretical
min	412 nm	429 nm	270 nm
max	504 nm	525 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.817		
Theta	82.7°		

## XY profile & fitting parameters :

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



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



A = 739.961 (brightness)

B = 129.010 (background)

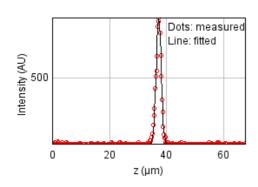
a = 0.787 px

b = 0.033 px

c = 0.532 px

xc = 6.120 pxyc = 6.736 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 43053.5724

Standard deviation: 11.84228

R^2: 0.98851 Parameters: a = 114.23920 b = 852.34812 c = 37.31399

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

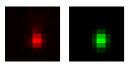
Coordinates: 102 um (x), -23.4 um (y), 37.4 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	428 nm	445 nm	270 nm
max	567 nm	591 nm	270 nm
Z	2.16 um	2.16 um	1.3 um
Asymmetry	0.753		
Theta	89.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 622.394 (brightness)

B = 122.447 (background)

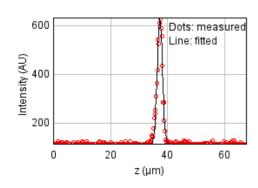
a = 0.734 px

b = 0.002 px

c = 0.417 px

xc = 6.477 pxyc = 6.867 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36032.1930

Standard deviation: 10.83368

R^2: 0.98151 Parameters: a = 112.45260 b = 634.43315 c = 37.36395

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

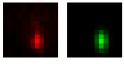
Coordinates: 131 um (x), -24.7 um (y), 36.0 um (z)

Corresponding bead: Not found

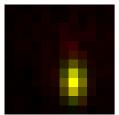
FWHM	Non corrected	Corrected	Theoretical
min	374 nm	390 nm	270 nm
max	646 nm	672 nm	270 nm
Z	2.62 um	2.63 um	1.3 um
Asymmetry	0.58		
Theta	-89.2°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 345.820 (brightness)

B = 120.772 (background)

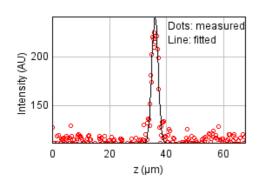
a = 0.958 px

b = -0.009 px

c = 0.322 px

xc = 7.062 pxyc = 7.902 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18918.0332

Standard deviation: 7.84998

R^2: 0.88404 Parameters: a = 111.21612

b = 241.88621

c = 36.01550

d = 1.11325

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

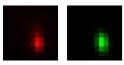
Coordinates: 163 um (x), -47.3 um (y), 37.3 um (z)

Corresponding bead : Not found

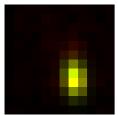
FWHM	Non corrected	Corrected	Theoretical
min	382 nm	398 nm	270 nm
max	645 nm	671 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.592		
Theta	-85.1°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 512.658 (brightness)

B = 118.551 (background)

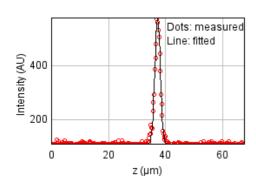
a = 0.916 px

b = -0.051 px

c = 0.327 px

xc = 7.143 pxyc = 7.581 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 21023.9540

Standard deviation: 8.27538

R^2: 0.98713 Parameters: a = 110.56581 b = 581.45707

0 - 001.-070

c = 37.27483

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

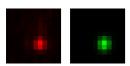
Coordinates: 84.9 um (x), -49.5 um (y), 37.0 um (z)

Corresponding bead: Not found

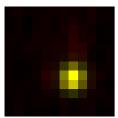
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	480 nm	500 nm	270 nm
Z	1.8 um	1.81 um	1.3 um
Asymmetry	0.879		
Theta	83.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 427.045 (brightness)

B = 118.677 (background)

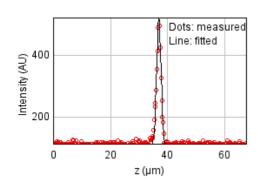
a = 0.751 px

b = 0.021 px

c = 0.585 px

xc = 6.944 pxyc = 7.278 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18764.9524

Standard deviation: 7.81816

R^2: 0.98146 Parameters: a = 112.63355 b = 522.49407

c = 37.02059

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

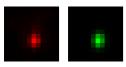
Coordinates: 51.5 um (x), -94.0 um (y), 37.5 um (z)

Corresponding bead: Not found

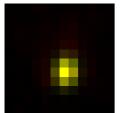
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	408 nm	270 nm
max	512 nm	533 nm	270 nm
Z	2.01 um	2.01 um	1.3 um
Asymmetry	0.766		
Theta	84.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 874.383 (brightness)

B = 125.773 (background)

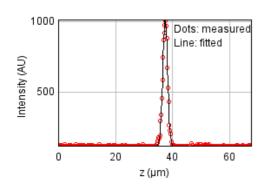
a = 0.869 px

b = 0.033 px

c = 0.515 px

xc = 6.193 pxyc = 6.921 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26717.9367

Standard deviation: 9.32894

R^2: 0.99504 Parameters: a = 114.23596 b = 1018.91414 c = 37.47785

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

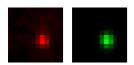
Coordinates: -159 um (x), 65.5 um (y), 36.7 um (z)

Corresponding bead: Not found

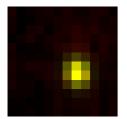
FWHM	Non corrected	Corrected	Theoretical
min	428 nm	446 nm	270 nm
max	512 nm	533 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.836		
Theta	-80.5°		

#### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.931$$



Parameters:

A = 229.110 (brightness)

B = 114.132 (background)

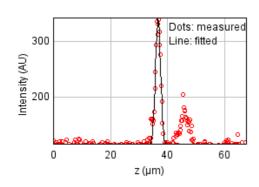
a = 0.726 px

b = -0.036 px

c = 0.518 px

xc = 7.131 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: 66431.1098

Standard deviation: 14.71013

R^2: 0.84178 Parameters: a = 114.59820 b = 341.87602

c = 36.74355

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

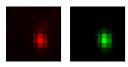
Coordinates: -18.7 um (x), 65.5 um (y), 37.4 um (z)

Corresponding bead: Not found

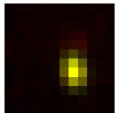
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	581 nm	605 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.688		
Theta	-81.3°		

## XY profile & fitting parameters :

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



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



A = 558.609 (brightness)

B = 121.941 (background)

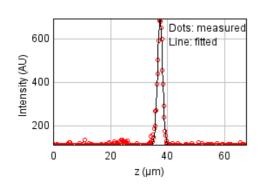
a = 0.831 px

b = -0.066 px

c = 0.408 px

xc = 7.105 pxyc = 6.845 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 29180.0640

Standard deviation: 9.74931

R^2: 0.98723 Parameters: a = 114.79553 b = 689.53449

c = 37.42963

Date: Mon Oct 17 13:52:47 PDT 2022

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

Frame size: 12 pixels

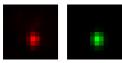
Coordinates: -6.11 um (x), 50.2 um (y), 37.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	493 nm	513 nm	270 nm
Z	1.91 um	1.92 um	1.3 um
Asymmetry	0.785		
Theta	89.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 901.752 (brightness)

B = 125.548 (background)

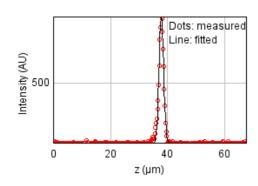
a = 0.898 px

b = 0.002 px

c = 0.553 px

xc = 6.206 pxyc = 7.177 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39020.3483

Standard deviation: 11.27396

R^2: 0.99061 Parameters: a = 114.53896 b = 925.43813

c = 37.89783

Date: Mon Oct 17 13:52:48 PDT 2022

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

Frame size: 12 pixels

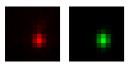
Coordinates: -102 um (x), 26.3 um (y), 37.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	403 nm	420 nm	270 nm
max	518 nm	540 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.777		
Theta	-88.6°		

#### XY profile & fitting parameters :

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



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



A = 769.554 (brightness)

B = 125.748 (background)

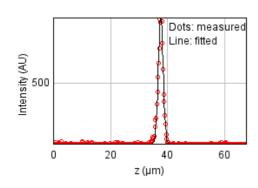
a = 0.826 px

b = -0.008 px

c = 0.500 px

xc = 6.936 pxyc = 6.829 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 51654.8226

Standard deviation: 12.97138

R^2: 0.98796 Parameters:

a = 114.45970

b = 911.66126

c = 37.67587

Date: Mon Oct 17 13:52:48 PDT 2022

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

Frame size: 12 pixels

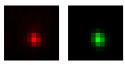
Coordinates: -7.44 um (x), 19.7 um (y), 37.8 um (z)

Corresponding bead: Not found

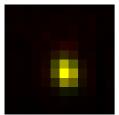
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	509 nm	530 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.784		
Theta	-75.8°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 908.162 (brightness)

B = 125.530 (background)

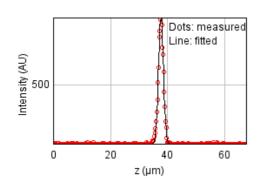
a = 0.823 px

b = -0.077 px

c = 0.538 px

xc = 6.186 pxyc = 6.890 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25656.6745

Standard deviation: 9.14178

R^2: 0.99454 Parameters: a = 114.16915 b = 943.72011

c = 37.76460

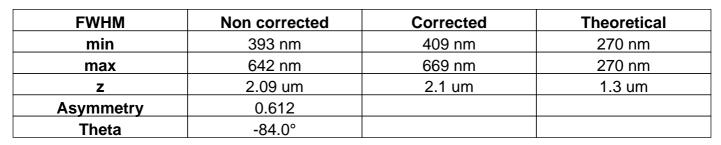
Date: Mon Oct 17 13:52:48 PDT 2022

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

Frame size: 12 pixels

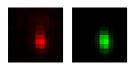
Coordinates: 143 um (x), -4.71 um (y), 37.2 um (z)

Corresponding bead: Not found



## XY profile & fitting parameters :

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



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



Parameters:

A = 493.216 (brightness)

B = 118.755 (background)

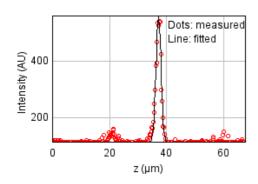
a = 0.865 px

b = -0.057 px

c = 0.332 px

xc = 6.613 pxyc = 6.895 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 44403.4110

Standard deviation: 12.02649

R^2: 0.96854 Parameters: a = 114.05688

b = 561.30927

c = 37.24991

Date: Mon Oct 17 13:52:48 PDT 2022

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

Frame size: 12 pixels

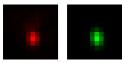
Coordinates: 8.15 um (x), -10.6 um (y), 37.7 um (z)

Corresponding bead: Not found

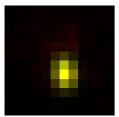
FWHM	Non corrected	Corrected	Theoretical
min	397 nm	413 nm	270 nm
max	561 nm	584 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.708		
Theta	-83.3°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 843.575 (brightness)

B = 129.709 (background)

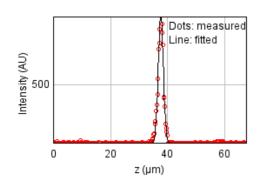
a = 0.846 px

b = -0.049 px

c = 0.432 px

xc = 6.065 pxyc = 6.860 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 64775.5138

Standard deviation: 14.52567

R^2: 0.98711 Parameters: a = 114.32388 b = 958.33869

c = 37.70538d = 0.90742

Date: Mon Oct 17 13:52:48 PDT 2022

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

Frame size: 12 pixels

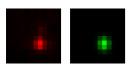
Coordinates: -76.4 um (x), -16.0 um (y), 38.0 um (z)

Corresponding bead: Not found

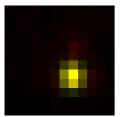
FWHM	Non corrected	Corrected	Theoretical
min	396 nm	412 nm	270 nm
max	461 nm	481 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.858		
Theta	-87.4°		

## XY profile & fitting parameters :

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



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



A = 921.541 (brightness)

B = 131.695 (background)

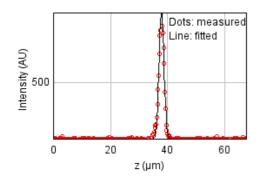
a = 0.857 px

b = -0.010 px

c = 0.631 px

xc = 6.899 pxyc = 7.241 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 37957.7175

Standard deviation: 11.11939

R^2: 0.99254 Parameters: a = 114.22473 b = 976.88370 c = 37.95954

Date: Mon Oct 17 13:52:48 PDT 2022

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

Frame size: 12 pixels

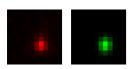
Coordinates: -116 um (x), -22.2 um (y), 37.4 um (z)

Corresponding bead: Not found

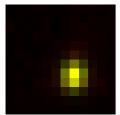
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	514 nm	535 nm	270 nm
Z	2.03 um	2.04 um	1.3 um
Asymmetry	0.797		
Theta	86.3°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 590.547(brightness)

B = 120.081(background)

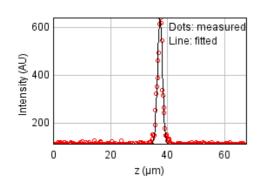
a = 0.799 px

b = 0.019 px

c = 0.509 px

xc = 6.966 pxyc = 7.284 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 45594.4263

Standard deviation: 12.18672

R^2: 0.97589 Parameters: a = 113.11962

b = 640.22932

c = 37.41209

Date: Mon Oct 17 13:52:49 PDT 2022

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

Frame size: 12 pixels

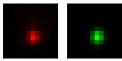
Coordinates: -121 um (x), -66.9 um (y), 37.6 um (z)

Corresponding bead: Not found

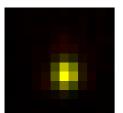
FWHM	Non corrected	Corrected	Theoretical
min	425 nm	443 nm	270 nm
max	495 nm	515 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.86		
Theta	87.2°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 768.880 (brightness)

B = 126.345 (background)

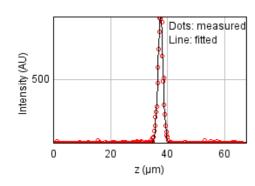
a = 0.741 px

b = 0.010 px

c = 0.548 px

xc = 6.170 pxyc = 6.784 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 36774.3980

Standard deviation: 10.94469

R^2: 0.99105 Parameters: a = 112.77729 b = 881.60080

c = 37.60146

# Bead 1951 (Rejected)

Date: Mon Oct 17 13:52:49 PDT 2022

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

Frame size: 12 pixels

Coordinates: -164 um (x), 94.7 um (y), 36.1 um (z)

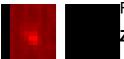
Corresponding bead: Not found

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	2.29 um	2.3 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

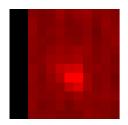
## XY profile & fitting parameters :

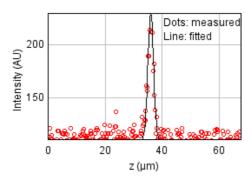
(red: the original data, green: the fit, yellow: the two merged)



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: 15267.7878

Standard deviation: 7.05211

R^2: 0.87447 Parameters: a = 110.51772 b = 230.00104 c = 36.08321

Date: Mon Oct 17 13:52:49 PDT 2022

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

Frame size: 12 pixels

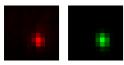
Coordinates: -74.1 um (x), 89.8 um (y), 37.9 um (z)

Corresponding bead: Not found

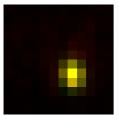
FWHM	Non corrected	Corrected	Theoretical
min	375 nm	391 nm	270 nm
max	496 nm	516 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.757		
Theta	-80.4°		

## XY profile & fitting parameters :

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



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



A = 659.184 (brightness)

B = 125.171 (background)

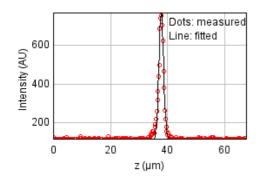
a = 0.941 px

b = -0.067 px

c = 0.558 px

xc = 7.057 pxyc = 7.158 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 39807.0291

Standard deviation: 11.38704

R^2: 0.98556 Parameters:

a = 113.83681

b = 768.89252

c = 37.86488

Date: Mon Oct 17 13:52:49 PDT 2022

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

Frame size: 12 pixels

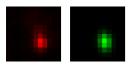
Coordinates: 87.1 um (x), 79.3 um (y), 38.2 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	430 nm	448 nm	270 nm
max	620 nm	646 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.694		
Theta	-83.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 564.387 (brightness)

B = 123.511 (background)

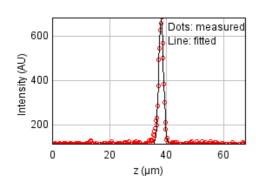
a = 0.720 px

b = -0.045 px

c = 0.354 px

xc = 7.091 pxyc = 7.237 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 32239.4392

Standard deviation: 10.24766

R^2: 0.98474 Parameters: a = 113.85241 b = 686.47441 c = 38.17603

Date: Mon Oct 17 13:52:49 PDT 2022

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

Frame size: 12 pixels

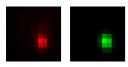
Coordinates: 14.6 um (x), 66.5 um (y), 37.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	383 nm	399 nm	270 nm
max	522 nm	543 nm	270 nm
Z	2.05 um	2.05 um	1.3 um
Asymmetry	0.734		
Theta	-79.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 684.819 (brightness)

B = 127.002 (background)

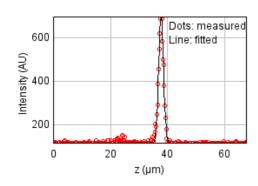
a = 0.901 px

b = -0.074 px

c = 0.506 px

xc = 7.367 pxyc = 7.181 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 29596.8427

Standard deviation: 9.81869

R^2: 0.98705 Parameters: a = 115.61320 b = 696.64878

c = 37.81027

Date: Mon Oct 17 13:52:49 PDT 2022

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

Frame size: 12 pixels

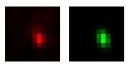
Coordinates: 63.4 um (x), 57.2 um (y), 37.7 um (z)

Corresponding bead: Not found

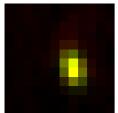
FWHM	Non corrected	Corrected	Theoretical
min	371 nm	387 nm	270 nm
max	590 nm	615 nm	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.629		
Theta	-74.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 469.012 (brightness)

B = 123.867 (background)

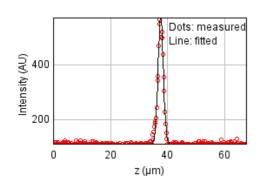
a = 0.929 px

b = -0.154 px

c = 0.429 px

xc = 6.968 pxyc = 6.527 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23433.4371

Standard deviation: 8.73673

R^2: 0.98463 Parameters: a = 113.21440 b = 569.43809

c = 37.65324

Date: Mon Oct 17 13:52:50 PDT 2022

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

Frame size: 12 pixels

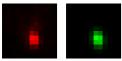
Coordinates: 34.2 um (x), 53.7 um (y), 37.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	375 nm	390 nm	270 nm
max	549 nm	572 nm	270 nm
Z	2.17 um	2.18 um	1.3 um
Asymmetry	0.683		
Theta	-80.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 720.679 (brightness)

B = 126.476 (background)

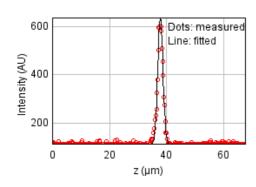
a = 0.941 px

b = -0.084 px

c = 0.460 px

xc = 6.455 pxyc = 7.265 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 27425.0626

Standard deviation: 9.45158

R^2: 0.98594 Parameters:

a = 114.04694

b = 635.65281

c = 37.89569

Date: Mon Oct 17 13:52:50 PDT 2022

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

Frame size: 12 pixels

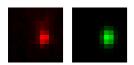
Coordinates: 90.5 um (x), 48.9 um (y), 37.5 um (z)

Corresponding bead: Not found

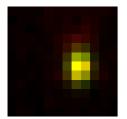
FWHM	Non corrected	Corrected	Theoretical
min	417 nm	434 nm	270 nm
max	591 nm	615 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.706		
Theta	88.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 459.627 (brightness)

B = 120.520 (background)

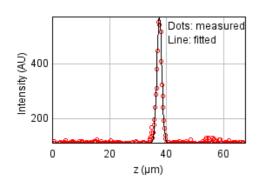
a = 0.772 px

b = 0.010 px

c = 0.385 px

xc = 7.343 pxyc = 6.039 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 30283.5960

Standard deviation: 9.93195

R^2: 0.97867 Parameters: a = 113.34640 b = 570.10259 c = 37.53995

# Bead 1958 (Rejected)

Date: Mon Oct 17 13:52:50 PDT 2022

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

Frame size: 12 pixels

Coordinates: 37.0 um (x), 27.2 um (y), 34.9 um (z)

Corresponding bead: Not found

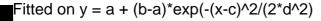
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.25 um	3.26 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

## XY profile & fitting parameters :

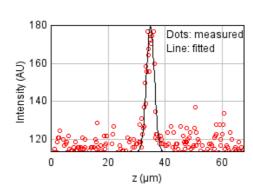
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 14406.1923

Standard deviation: 6.85023

R^2: 0.76152 Parameters: a = 113.50466 b = 180.30892

c = 34.90250

d = 1.37891

Date: Mon Oct 17 13:52:50 PDT 2022

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

Frame size: 12 pixels

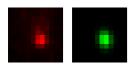
Coordinates: 148 um (x), 8.36 um (y), 37.6 um (z)

Corresponding bead: Not found

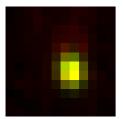
FWHM	Non corrected	Corrected	Theoretical
min	452 nm	470 nm	270 nm
max	583 nm	607 nm	270 nm
Z	2.29 um	2.3 um	1.3 um
Asymmetry	0.775		
Theta	-81.3°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 383.382 (brightness)

B = 119.774 (background)

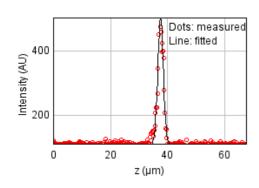
a = 0.652 px

b = -0.039 px

c = 0.401 px

xc = 6.660 pxyc = 6.493 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 34483.8712

Standard deviation: 10.59836

R^2: 0.97037 Parameters:

a = 112.14171

b = 501.79348

c = 37.62361

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

Frame size: 12 pixels

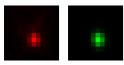
Coordinates: 10.2 um (x), -19.9 um (y), 37.9 um (z)

Corresponding bead: Not found

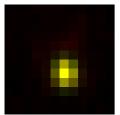
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	419 nm	270 nm
max	512 nm	534 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.786		
Theta	-83.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 721.982 (brightness)

B = 127.612 (background)

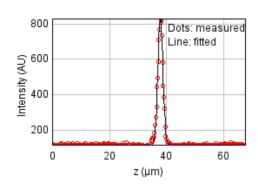
a = 0.823 px

b = -0.035 px

c = 0.515 px

xc = 6.140 pxyc = 6.956 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25378.7488

Standard deviation: 9.09214

R^2: 0.99294 Parameters:

a = 113.76777

b = 832.28043

c = 37.92052

Date: Mon Oct 17 13:52:50 PDT 2022

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

Frame size: 12 pixels

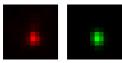
Coordinates: -24.6 um (x), -48.3 um (y), 37.9 um (z)

Corresponding bead : Not found

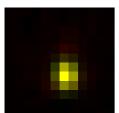
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	412 nm	270 nm
max	512 nm	533 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.773		
Theta	-86.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 873.612 (brightness)

B = 129.138 (background)

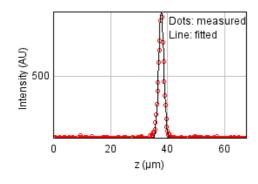
a = 0.857 px

b = -0.023 px

c = 0.514 px

xc = 6.215 pxyc = 6.908 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 39678.9143

Standard deviation: 11.36870

R^2: 0.99105 Parameters: a = 113.47784 b = 906.73185

c = 37.86775

Date: Mon Oct 17 13:52:50 PDT 2022

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

Frame size: 12 pixels

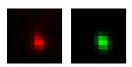
Coordinates: 30.2 um (x), -48.9 um (y), 37.8 um (z)

Corresponding bead: Not found

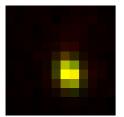
FWHM	Non corrected	Corrected	Theoretical
min	412 nm	429 nm	270 nm
max	543 nm	565 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.76		
Theta	-72.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 686.649 (brightness)

B = 123.239 (background)

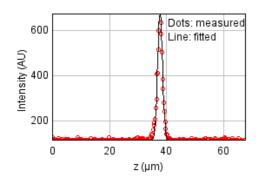
a = 0.760 px

b = -0.095 px

c = 0.485 px

xc = 6.441 pxyc = 6.892 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 31253.5329

Standard deviation: 10.08975

R^2: 0.98548 Parameters:

a = 113.58546

b = 675.09897

c = 37.78946

Date: Mon Oct 17 13:52:51 PDT 2022

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

Frame size: 12 pixels

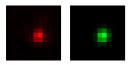
Coordinates: -40.8 um (x), -51.4 um (y), 37.7 um (z)

Corresponding bead: Not found

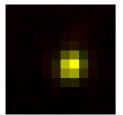
FWHM	Non corrected	Corrected	Theoretical
min	418 nm	435 nm	270 nm
max	482 nm	502 nm	270 nm
Z	1.96 um	1.97 um	1.3 um
Asymmetry	0.867		
Theta	72.8°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 752.405 (brightness)

B = 124.116 (background)

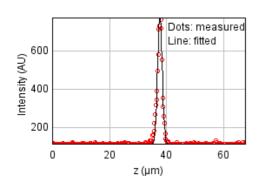
a = 0.752 px

b = 0.054 px

c = 0.594 px

xc = 6.686 pxyc = 6.147 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 57675.8098

Standard deviation: 13.70653

R^2: 0.97998 Parameters: a = 113.47799 b = 776.71027 c = 37.74701

Date: Mon Oct 17 13:52:51 PDT 2022

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

Frame size: 12 pixels

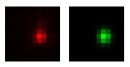
Coordinates: -69.9 um (x), -56.7 um (y), 38.0 um (z)

Corresponding bead: Not found

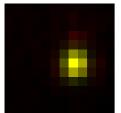
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	507 nm	528 nm	270 nm
Z	2.09 um	2.09 um	1.3 um
Asymmetry	0.831		
Theta	86.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 680.722 (brightness)

B = 125.137 (background)

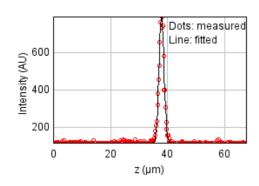
a = 0.754 px

b = 0.015 px

c = 0.522 px

xc = 7.220 pxyc = 6.063 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 31895.9811

Standard deviation: 10.19292

R^2: 0.98994 Parameters: a = 114.65348 b = 793.88397

c = 37.95919

Date: Mon Oct 17 13:52:51 PDT 2022

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

Frame size: 12 pixels

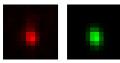
Coordinates: 116 um (x), -85.6 um (y), 37.7 um (z)

Corresponding bead: Not found

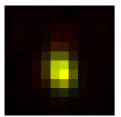
FWHM	Non corrected	Corrected	Theoretical
min	456 nm	475 nm	270 nm
max	626 nm	652 nm	270 nm
Z	2.03 um	2.03 um	1.3 um
Asymmetry	0.729		
Theta	-78.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 477.652 (brightness)

B = 118.019 (background)

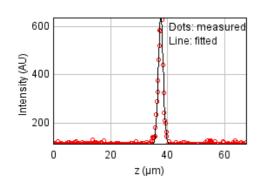
a = 0.635 px

b = -0.058 px

c = 0.354 px

xc = 5.640 pxyc = 6.661 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 39841.9007

Standard deviation: 11.39202

R^2: 0.97865 Parameters: a = 112.14298 b = 637.50205

c = 37.70323

Date: Mon Oct 17 13:52:51 PDT 2022

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

Frame size: 12 pixels

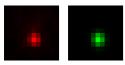
Coordinates: 16.8 um (x), -89.2 um (y), 37.9 um (z)

Corresponding bead: Not found

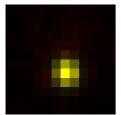
FWHM	Non corrected	Corrected	Theoretical
min	421 nm	439 nm	270 nm
max	486 nm	506 nm	270 nm
Z	2.06 um	2.06 um	1.3 um
Asymmetry	0.867		
Theta	-84.8°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 793.654 (brightness)

B = 125.529 (background)

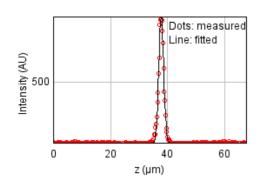
a = 0.755 px

b = -0.017 px

c = 0.570 px

xc = 6.165 pxyc = 6.923 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26423.0931

Standard deviation: 9.27732

R^2: 0.99385 Parameters: a = 113.37561

b = 910.68903

c = 37.85670

Date: Mon Oct 17 13:52:51 PDT 2022

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

Frame size: 12 pixels

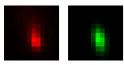
Coordinates: 129 um (x), 94.1 um (y), 38.4 um (z)

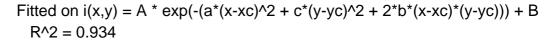
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	810 nm	843 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.511		
Theta	-79.3°		

## XY profile & fitting parameters :

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







Parameters:

A = 662.239 (brightness)

B = 129.079 (background)

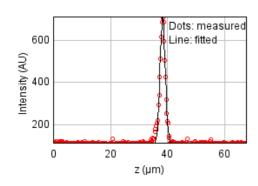
a = 0.764 px

b = -0.106 px

c = 0.225 px

xc = 6.355 pxyc = 6.938 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 30548.2691

Standard deviation: 9.97526

R^2: 0.98798 Parameters:

a = 112.16744

b = 714.75843

c = 38.35876

# Bead 1968 (Rejected)

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

Coordinates: -3.68 um (x), 75.4 um (y), 38.2 um (z)

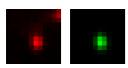
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

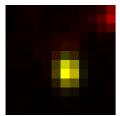
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	509 nm	530 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.764		
Theta	-84.8°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.729$$



A = 795.273 (brightness)

B = 142.452 (background)

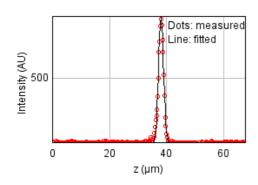
a = 0.883 px

b = -0.033 px

c = 0.521 px

xc = 6.279 pxyc = 6.711 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 28150.4454

Standard deviation: 9.57576

R^2: 0.99273

Parameters:

a = 114.86504

b = 869.16037

c = 38.15333

# Bead 1969 (Rejected)

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

Coordinates: -42.5 um (x), 69.2 um (y), 8.43 um (z)

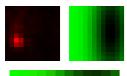
Corresponding bead: Not found

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

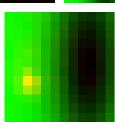
FWHM	Non corrected	Corrected	Theoretical
min	1.52 um	1.59 um	270 nm
max	4.03 um	4.2 um	270 nm
Z	1.75 um	1.75 um	1.3 um
Asymmetry	0.378		
Theta	89.7°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.198$$



A = -57.651 (brightness)

B = 168.987 (background)

a = 0.058 px

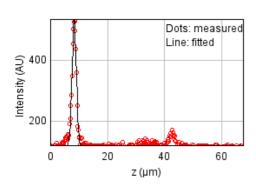
b = 0.000 px

c = -0.008 px

xc = 8.651 px

yc = 5.132 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 43571.6209

Standard deviation: 11.91332

R^2: 0.95859

Parameters:

a = 118.61459

b = 537.62450

c = 8.42538

# Bead 1970 (Rejected)

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

Coordinates: 103 um (x), 47.7 um (y), 34.5 um (z)

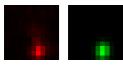
Corresponding bead: Not found

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

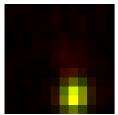
FWHM	Non corrected	Corrected	Theoretical
min	448 nm	467 nm	270 nm
max	565 nm	589 nm	270 nm
Z	3.41 um	3.42 um	1.3 um
Asymmetry	0.793		
Theta	83.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 439.437 (brightness)

B = 123.357 (background)

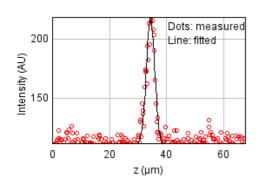
a = 0.665 px

b = 0.027 px

c = 0.423 px

xc = 7.078 pxyc = 9.567 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 14384.5657

Standard deviation: 6.84509

R^2: 0.89537

Parameters:

a = 111.91508

b = 218.79392

c = 34.45366

d = 1.44706

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

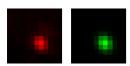
Coordinates: -75.7 um (x), 25.2 um (y), 38.3 um (z)

Corresponding bead: Not found

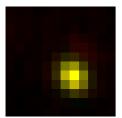
FWHM	Non corrected	Corrected	Theoretical
min	478 nm	497 nm	270 nm
max	573 nm	597 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.833		
Theta	-61.3°		

#### XY profile & fitting parameters :

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



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



A = 612.016 (brightness)

B = 126.458 (background)

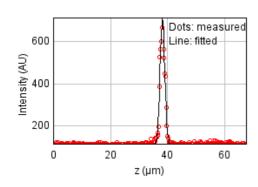
a = 0.547 px

b = -0.076 px

c = 0.450 px

xc = 6.849 pxyc = 7.086 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 46547.8571

Standard deviation: 12.31348

R^2: 0.97989 Parameters: a = 113.71856 b = 711.45155 c = 38.28189

# Bead 1972 (Rejected)

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

Coordinates: -130 um (x), 18.2 um (y), 35.9 um (z)

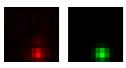
Corresponding bead: Not found

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

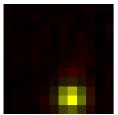
FWHM	Non corrected	Corrected	Theoretical
min	447 nm	466 nm	270 nm
max	466 nm	485 nm	270 nm
Z	3.87 um	3.88 um	1.3 um
Asymmetry	0.961		
Theta	-7.0°		

## XY profile & fitting parameters :

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



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



Parameters:

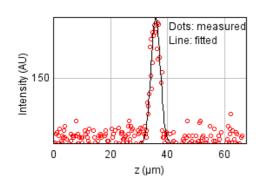
A = 425.408 (brightness) B = 120.583 (background)

a = 0.620 pxb = -0.006 px

c = 0.669 px

xc = 6.871 pxyc = 9.758 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16762.6474

Standard deviation: 7.38928

R^2: 0.80472 Parameters: a = 111.13620 b = 186.71339 c = 35.90767

d = 1.64213

# Bead 1973 (Rejected)

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

Coordinates: 64.8 um (x), -2.31 um (y), 34.3 um (z)

Corresponding bead: Not found

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

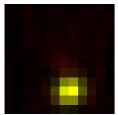
FWHM	Non corrected	Corrected	Theoretical
min	458 nm	477 nm	270 nm
max	498 nm	519 nm	270 nm
Z	4.0 um	4.01 um	1.3 um
Asymmetry	0.92		
Theta	36.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 520.185 (brightness)

B = 123.484 (background)

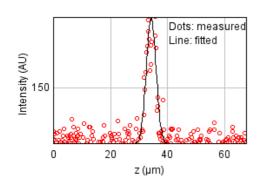
a = 0.575 px

b = 0.047 px

c = 0.603 px

xc = 6.594 pxyc = 8.980 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18895.4722

Standard deviation: 7.84530

R^2: 0.82556 Parameters:

a = 112.51916

b = 197.24135

c = 34.33284

d = 1.69698

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

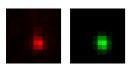
Coordinates: -135 um (x), -8.71 um (y), 37.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	419 nm	437 nm	270 nm
max	515 nm	537 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.814		
Theta	-75.7°		

## XY profile & fitting parameters :

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



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



A = 410.442 (brightness)

B = 118.222 (background)

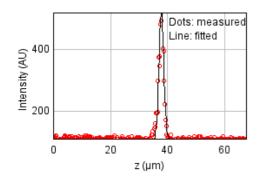
a = 0.747 px

b = -0.062 px

c = 0.521 px

xc = 6.599 pxyc = 7.097 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 39120.9729

Standard deviation: 11.28848

R^2: 0.96560 Parameters:

a = 111.33294

b = 520.98908

c = 37.91999

# Bead 1975 (Rejected)

Date: Mon Oct 17 13:52:52 PDT 2022

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

Frame size: 12 pixels

Coordinates: -62.9 um (x), -32.5 um (y), 34.0 um (z)

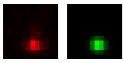
Corresponding bead: Not found

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

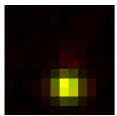
FWHM	Non corrected	Corrected	Theoretical
min	460 nm	479 nm	270 nm
max	501 nm	522 nm	270 nm
Z	3.66 um	3.67 um	1.3 um
Asymmetry	0.918		
Theta	-12.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 657.220 (brightness) B = 127.955 (background)

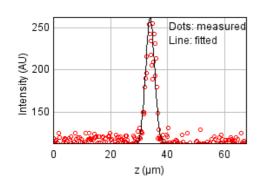
a = 0.539 px

b = -0.021 px

c = 0.629 px

xc = 6.306 pxyc = 8.452 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 36905.4502

Standard deviation: 10.96418

R^2: 0.87474 Parameters:

a = 112.59704

b = 262.29796

c = 33.95756

d = 1.55372

## Bead 1976 (Rejected)

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

Coordinates: -94.1 um (x), -54.5 um (y), 34.5 um (z)

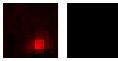
Corresponding bead: Not found

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

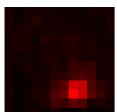
FWHM	Non corrected	Corrected	Theoretical
min	2.18 um	2.28 um	270 nm
max	3.17 um	3.3 um	270 nm
Z	3.11 um	3.13 um	1.3 um
Asymmetry	0.69		
Theta	0.0°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.177$$



Parameters:

A = -48.147 (brightness)

B = 167.371 (background)

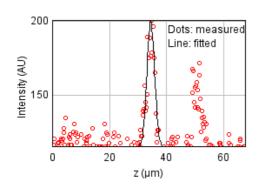
a = 0.005 px

b = 0.021 px

c = 0.010 px

xc = 3.095 pxyc = 2.229 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 46815.9345

Standard deviation: 12.34888

R^2: 0.60607 Parameters:

a = 115.48751

b = 200.72400

c = 34.53811

d = 1.32197

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

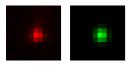
Coordinates: -11.8 um (x), -69.8 um (y), 37.7 um (z)

Corresponding bead: Not found

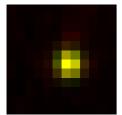
FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	494 nm	514 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.891		
Theta	-84.5°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 545.085 (brightness)

B = 121.657 (background)

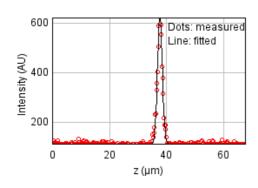
a = 0.692 px

b = -0.014 px

c = 0.552 px

xc = 6.326 pxyc = 5.962 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26726.7637

Standard deviation: 9.33048

R^2: 0.98485 Parameters:

a = 114.38522

b = 622.99944

c = 37.74307

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

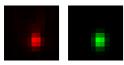
Coordinates: 54.2 um (x), -74.5 um (y), 38.3 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	418 nm	270 nm
max	538 nm	560 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.747		
Theta	89.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 840.172 (brightness)

B = 124.843 (background)

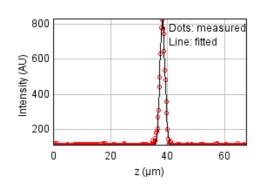
a = 0.831 px

b = 0.003 px

c = 0.464 px

xc = 6.412 pxyc = 7.210 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 23686.0417

Standard deviation: 8.78369

R^2: 0.99322 Parameters:

a = 113.36927

b = 827.49331

c = 38.29395

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

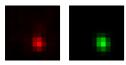
Coordinates: 29.9 um (x), -86.1 um (y), 38.0 um (z)

Corresponding bead: Not found

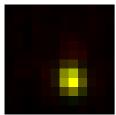
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	497 nm	517 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.823		
Theta	-75.4°		

## 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 = 857.714 (brightness)

B = 128.528 (background)

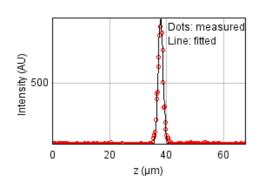
a = 0.786 px

b = -0.063 px

c = 0.560 px

xc = 6.781 pxyc = 7.734 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 65401.1672

Standard deviation: 14.59565

R^2: 0.98492 Parameters: a = 114.16527 b = 913.21801

c = 38.00577d = 0.87005

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

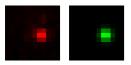
Coordinates: -121 um (x), 54.0 um (y), 38.3 um (z)

Corresponding bead: Not found

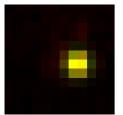
FWHM	Non corrected	Corrected	Theoretical
min	429 nm	446 nm	270 nm
max	447 nm	466 nm	270 nm
Z	1.94 um	1.94 um	1.3 um
Asymmetry	0.958		
Theta	-82.4°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 472.987 (brightness)

B = 120.860 (background)

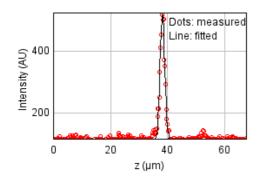
a = 0.730 px

b = -0.008 px

c = 0.672 px

xc = 7.466 pxyc = 5.960 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 27512.8448

Standard deviation: 9.46670

R^2: 0.97453 Parameters: a = 115.54621

u = 110.0402

b = 523.16341

c = 38.28485

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

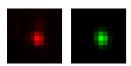
Coordinates: -45.5 um (x), 3.4 um (y), 38.2 um (z)

Corresponding bead : Not found

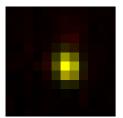
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	521 nm	542 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.786		
Theta	-80.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 584.070 (brightness)

B = 120.998 (background)

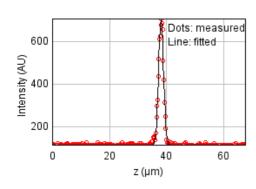
a = 0.792 px

b = -0.051 px

c = 0.504 px

xc = 6.244 pxyc = 6.042 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 24436.6687

Standard deviation: 8.92179

R^2: 0.98992 Parameters:

a = 113.31843

b = 711.53193

c = 38.16064

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

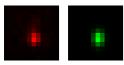
Coordinates: 22.3 um (x), -4.22 um (y), 38.0 um (z)

Corresponding bead: Not found

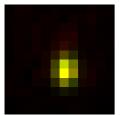
FWHM	Non corrected	Corrected	Theoretical
min	380 nm	396 nm	270 nm
max	527 nm	548 nm	270 nm
Z	2.04 um	2.04 um	1.3 um
Asymmetry	0.722		
Theta	89.1°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 588.219 (brightness)

B = 126.218 (background)

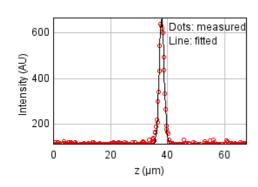
a = 0.928 px

b = 0.007 px

c = 0.484 px

xc = 6.155 pxyc = 6.681 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25713.2450

Standard deviation: 9.15186

R^2: 0.98741 Parameters: a = 114.30737 b = 664.99287 c = 38.01919

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

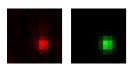
Coordinates: -132 um (x), -65.5 um (y), 37.9 um (z)

Corresponding bead: Not found

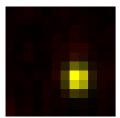
FWHM	Non corrected	Corrected	Theoretical
min	399 nm	416 nm	270 nm
max	480 nm	500 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.832		
Theta	-87.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 516.400 (brightness)

B = 122.430 (background)

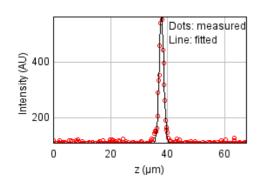
a = 0.842 px

b = -0.010 px

c = 0.583 px

xc = 7.327 pxyc = 7.334 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20908.4657

Standard deviation: 8.25262

R^2: 0.98388 Parameters: a = 112.19152 b = 562.53172

0 = 002.00172

c = 37.94809

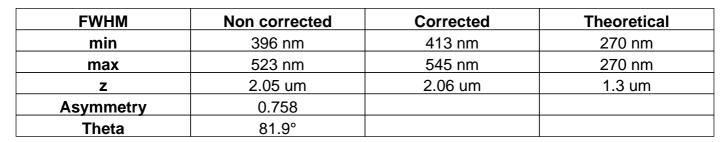
Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

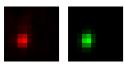
Coordinates: 37.3 um (x), -82.4 um (y), 52.4 um (z)

Corresponding bead: Not found



#### XY profile & fitting parameters :

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



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



Parameters:

A = 753.626 (brightness)

B = 125.667 (background)

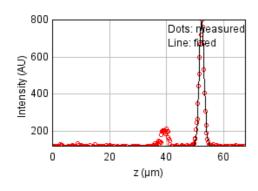
a = 0.847 px

b = 0.051 px

c = 0.497 px

xc = 3.626 pxyc = 6.900 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 119997.576

Standard deviation: 19.77047

R^2: 0.96302 Parameters: a = 118.80545

b = 801.33900

c = 52.37770

# Bead 1985 (Rejected)

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

Coordinates: 93.2 um (x), 54.0 um (y), 37.7 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	581 nm	605 nm	270 nm
Z	2.22 um	2.23 um	1.3 um
Asymmetry	0.708		
Theta	-57.1°		

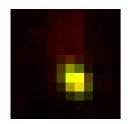
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.870$$





A = 423.920 (brightness)

B = 127.254 (background)

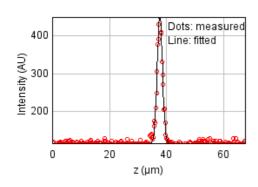
a = 0.677 px

b = -0.180 px

c = 0.515 px

xc = 6.542 pxyc = 7.209 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 15549.9816

Standard deviation: 7.11698

R^2: 0.98157 Parameters:

a = 113.02638

b = 451.78021

c = 37.72126

# Bead 1986 (Rejected)

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

Coordinates: 10.1 um (x), 27.5 um (y), 34.4 um (z)

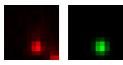
Corresponding bead: Not found

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

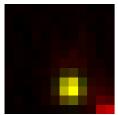
FWHM	Non corrected	Corrected	Theoretical
min	420 nm	437 nm	270 nm
max	466 nm	485 nm	270 nm
Z	3.71 um	3.72 um	1.3 um
Asymmetry	0.901		
Theta	-86.6°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.692$$



Parameters:

A = 622.988 (brightness)

B = 142.892 (background)

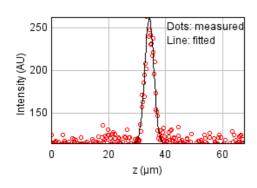
a = 0.761 px

b = -0.008 px

c = 0.619 px

xc = 6.721 pxyc = 8.686 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19724.3882

Standard deviation: 8.01554

R^2: 0.92757 Parameters:

a = 114.67189

b = 261.96249

c = 34.37049

d = 1.57494

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

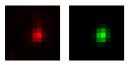
Coordinates: -99.5 um (x), 16.2 um (y), 38.9 um (z)

Corresponding bead: Not found

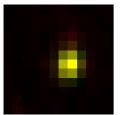
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	412 nm	270 nm
max	507 nm	528 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.78		
Theta	81.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 648.540 (brightness)

B = 128.889 (background)

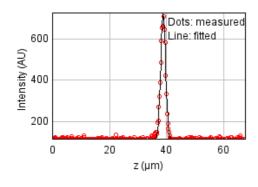
a = 0.850 px

b = 0.052 px

c = 0.530 px

xc = 6.692 pxyc = 5.992 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25420.2282

Standard deviation: 9.09956

R^2: 0.98977 Parameters: a = 113.33942 b = 728.88585

c = 38.87911

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

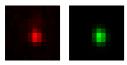
Coordinates: 78.4 um (x), 10.8 um (y), 38.4 um (z)

Corresponding bead: Not found

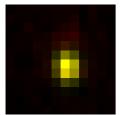
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	534 nm	556 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.758		
Theta	-85.1°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 486.391 (brightness)

B = 121.402 (background)

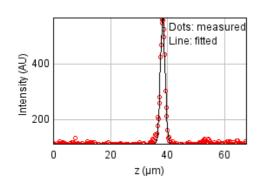
a = 0.818 px

b = -0.030 px

c = 0.474 px

xc = 6.244 pxyc = 6.285 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 23853.0211

Standard deviation: 8.81460

R^2: 0.98227 Parameters:

a = 113.70356

b = 571.20153

c = 38.38815

# Bead 1989 (Rejected)

Date: Mon Oct 17 13:52:53 PDT 2022

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

Frame size: 12 pixels

Coordinates: -76.2 um (x), -44.2 um (y), 24.6 um (z)

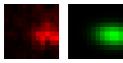
Corresponding bead: Not found

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

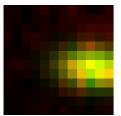
FWHM	Non corrected	Corrected	Theoretical
min	754 nm	785 nm	270 nm
max	1.31 um	1.37 um	270 nm
Z	2.66 um	2.67 um	1.3 um
Asymmetry	0.574		
Theta	-5.5°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.882$$



Parameters:

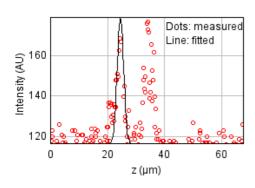
A = 166.599 (brightness) B = 115.763 (background)

a = 0.079 pxb = -0.015 px

c = 0.235 px

xc = 9.512 pxyc = 6.351 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 51516.3602

Standard deviation: 12.95399

R^2: 0.39363 Parameters: a = 116.51376 b = 178.97614 c = 24.61027

d = 1.13079

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

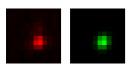
Coordinates: -121 um (x), -48.9 um (y), 38.5 um (z)

Corresponding bead : Not found

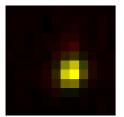
FWHM	Non corrected	Corrected	Theoretical
min	420 nm	437 nm	270 nm
max	496 nm	516 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.848		
Theta	70.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 515.930 (brightness)

B = 119.839 (background)

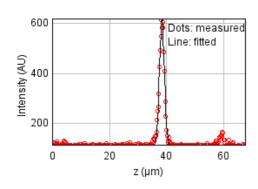
a = 0.737 px

b = 0.067 px

c = 0.570 px

xc = 6.673 pxyc = 6.810 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 38727.9420

Standard deviation: 11.23164

R^2: 0.97722 Parameters: a = 114.36931 b = 618.04473 c = 38.45790

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

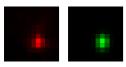
Coordinates: 8.58 um (x), -49.9 um (y), 38.6 um (z)

Corresponding bead: Not found

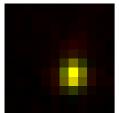
FWHM	Non corrected	Corrected	Theoretical
min	405 nm	422 nm	270 nm
max	505 nm	526 nm	270 nm
Z	1.89 um	1.9 um	1.3 um
Asymmetry	0.802		
Theta	84.7°		

## XY profile & fitting parameters :

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



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



A = 773.295 (brightness)

B = 128.035 (background)

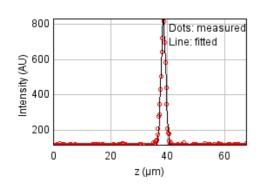
a = 0.816 px

b = 0.027 px

c = 0.529 px

xc = 7.006 pxyc = 7.290 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 38916.6414

Standard deviation: 11.25897

R^2: 0.98803 Parameters: a = 114.14281 b = 834.31952

c = 38.62959

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

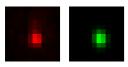
Coordinates: -159 um (x), -51.1 um (y), 37.9 um (z)

Corresponding bead: Not found

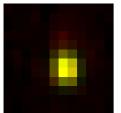
FWHM	Non corrected	Corrected	Theoretical
min	435 nm	454 nm	270 nm
max	558 nm	582 nm	270 nm
Z	2.25 um	2.26 um	1.3 um
Asymmetry	0.78		
Theta	-84.4°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 412.615 (brightness)

B = 121.438 (background)

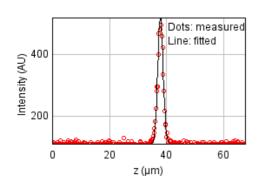
a = 0.705 px

b = -0.027 px

c = 0.433 px

xc = 6.300 pxyc = 6.554 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 19798.8809

Standard deviation: 8.03066

R^2: 0.98387 Parameters:

a = 111.36834

b = 517.48712

c = 37.92679

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

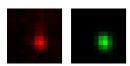
Coordinates: 163 um (x), -68.1 um (y), 38.1 um (z)

Corresponding bead: Not found

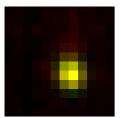
FWHM	Non corrected	Corrected	Theoretical
min	457 nm	476 nm	270 nm
max	554 nm	577 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.825		
Theta	-79.3°		

## XY profile & fitting parameters :

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



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



A = 342.673 (brightness)

B = 115.857 (background)

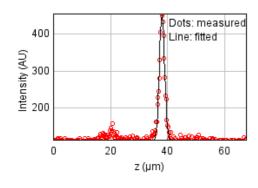
a = 0.636 px

b = -0.038 px

c = 0.444 px

xc = 6.731 pxyc = 6.829 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 30484.6496

Standard deviation: 9.96486

R^2: 0.96434 Parameters: a = 112.71347

b = 455.85272

c = 38.13569

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

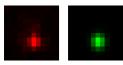
Coordinates: -7.23 um (x), -83.1 um (y), 38.3 um (z)

Corresponding bead: Not found

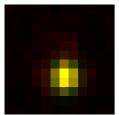
FWHM	Non corrected	Corrected	Theoretical
min	457 nm	476 nm	270 nm
max	521 nm	543 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.877		
Theta	-89.1°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 505.101 (brightness)

B = 123.329 (background)

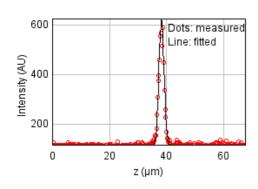
a = 0.642 px

b = -0.002 px

c = 0.494 px

xc = 6.115 pxyc = 7.384 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 49128.7301

Standard deviation: 12.65023

R^2: 0.97369 Parameters: a = 113.93593 b = 626.35377 c = 38.30194

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

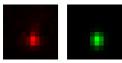
Coordinates: 129 um (x), -94.6 um (y), 38.3 um (z)

Corresponding bead: Not found

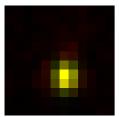
FWHM	Non corrected	Corrected	Theoretical
min	398 nm	414 nm	270 nm
max	505 nm	526 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.788		
Theta	89.2°		

## XY profile & fitting parameters :

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



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



A = 494.000 (brightness)

B = 119.359 (background)

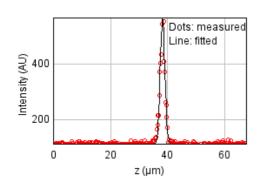
a = 0.848 px

b = 0.004 px

c = 0.527 px

xc = 6.145 pxyc = 7.291 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27811.3241

Standard deviation: 9.51791

R^2: 0.97911 Parameters: a = 112.59878 b = 566.81726 c = 38.31553

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

Coordinates: 153 um (x), 93.7 um (y), 37.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	436 nm	454 nm	270 nm
max	773 nm	805 nm	270 nm
Z	2.25 um	2.26 um	1.3 um
Asymmetry	0.564		
Theta	-79.6°		

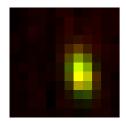
#### XY profile & fitting parameters :

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





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



Parameters:

A = 226.524 (brightness)

B = 114.455 (background)

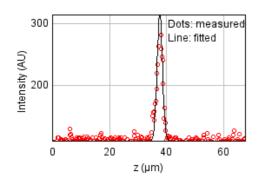
a = 0.691 px

b = -0.086 px

c = 0.240 px

xc = 7.283 pxyc = 6.636 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 17644.3617

Standard deviation: 7.58113

R^2: 0.94535 Parameters: a = 110.14390

b = 314.36926

c = 37.69785

# Bead 1997 (Rejected)

Date: Mon Oct 17 13:52:54 PDT 2022

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

Frame size: 12 pixels

Coordinates: -135 um (x), 75.6 um (y), 38.3 um (z)

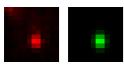
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

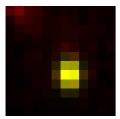
FWHM	Non corrected	Corrected	Theoretical
min	390 nm	406 nm	270 nm
max	511 nm	533 nm	270 nm
Z	2.33 um	2.34 um	1.3 um
Asymmetry	0.763		
Theta	-88.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 368.402 (brightness)

B = 122.430 (background)

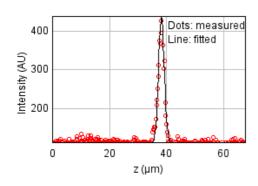
a = 0.882 px

b = -0.008 px

c = 0.513 px

xc = 6.476 pxyc = 6.948 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 30736.5416

Standard deviation: 10.00595

R^2: 0.96272 Parameters:

a = 113.05525

b = 437.15548

c = 38.27067

Date: Mon Oct 17 13:52:55 PDT 2022

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

Frame size: 12 pixels

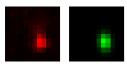
Coordinates: 140 um (x), -8.52 um (y), 38.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	606 nm	631 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.678		
Theta	-84.7°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 443.321 (brightness)

B = 117.777 (background)

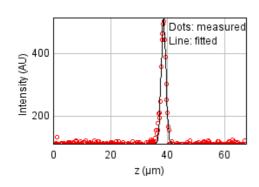
a = 0.790 px

b = -0.039 px

c = 0.369 px

xc = 7.316 pxyc = 7.246 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26315.2657

Standard deviation: 9.25837

R^2: 0.97520 Parameters:

a = 111.29787

b = 514.80548

c = 38.65879

Date: Mon Oct 17 13:52:55 PDT 2022

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

Frame size: 12 pixels

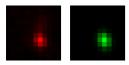
Coordinates: 103 um (x), -45.2 um (y), 38.5 um (z)

Corresponding bead: Not found

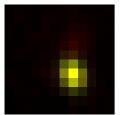
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	549 nm	572 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.747		
Theta	-73.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 538.404 (brightness)

B = 120.075 (background)

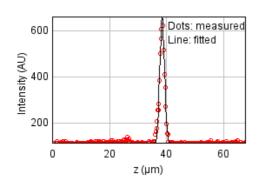
a = 0.770 px

b = -0.094 px

c = 0.472 px

xc = 6.947 pxyc = 7.135 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 26571.7072

Standard deviation: 9.30338

R^2: 0.98620 Parameters: a = 112.70890

b = 659.39643

c = 38.53476

Date: Mon Oct 17 13:52:55 PDT 2022

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

Frame size: 12 pixels

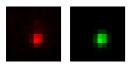
Coordinates: -97.8 um (x), -57.0 um (y), 38.2 um (z)

Corresponding bead: Not found

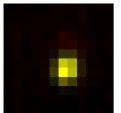
FWHM	Non corrected	Corrected	Theoretical
min	388 nm	404 nm	270 nm
max	476 nm	496 nm	270 nm
Z	2.13 um	2.14 um	1.3 um
Asymmetry	0.815		
Theta	75.4°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 571.310 (brightness)

B = 122.943 (background)

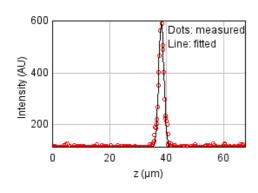
a = 0.872 px

b = 0.073 px

c = 0.611 px

xc = 6.346 pxyc = 6.647 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 27343.9975

Standard deviation: 9.43761

R^2: 0.98374 Parameters: a = 113.28183 b = 601.30876 c = 38.24481