Date: Mon Oct 17 13:51:43 PDT 2022

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

Frame size: 12 pixels

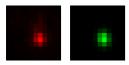
Coordinates: 84.4 um (x), -89.8 um (y), 22.0 um (z)

Corresponding bead: Not found

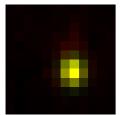
FWHM	Non corrected	Corrected	Theoretical
min	409 nm	426 nm	270 nm
max	512 nm	533 nm	270 nm
Z	2.14 um	2.15 um	1.3 um
Asymmetry	0.8		
Theta	-85.1°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 712.778 (brightness)

B = 123.343 (background)

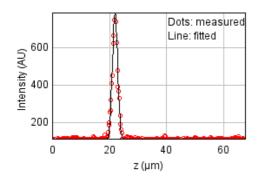
a = 0.799 px

b = -0.025 px

c = 0.514 px

xc = 6.818 pxyc = 6.776 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 40964.0555

Standard deviation: 11.55134

R^2: 0.98713 Parameters: a = 113.82187

b = 785.37613

c = 22.03652

Date: Mon Oct 17 13:51:43 PDT 2022

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

Frame size: 12 pixels

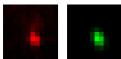
Coordinates: 162 um (x), 78.4 um (y), 21.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	362 nm	377 nm	270 nm
max	558 nm	581 nm	270 nm
Z	2.42 um	2.43 um	1.3 um
Asymmetry	0.648		
Theta	-71.7°		

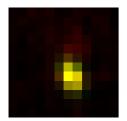
### XY profile & fitting parameters :

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





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



Parameters:

A = 318.916 (brightness)

B = 117.732 (background)

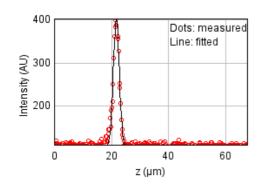
a = 0.967 px

b = -0.178 px

c = 0.490 px

xc = 6.375 pxyc = 6.980 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 14047.9105

Standard deviation: 6.76452

R^2: 0.97949 Parameters:

a = 109.27917

b = 401.95611

c = 21.77595

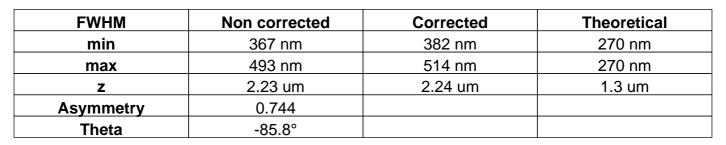
Date: Mon Oct 17 13:51:43 PDT 2022

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

Frame size: 12 pixels

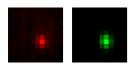
Coordinates: -117 um (x), 73.8 um (y), 21.5 um (z)

Corresponding bead: Not found

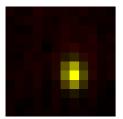


#### XY profile & fitting parameters :

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



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



Parameters:

A = 265.450 (brightness)

B = 119.619 (background)

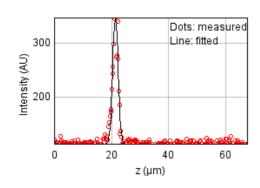
a = 0.993 px

b = -0.033 px

c = 0.554 px

xc = 6.885 pxyc = 6.887 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24447.0290

Standard deviation: 8.92368

R^2: 0.94269 Parameters:

a = 112.25672

b = 347.80734

c = 21.45192

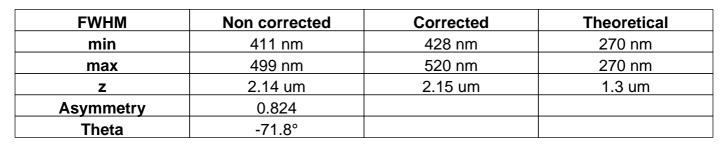
Date: Mon Oct 17 13:51:43 PDT 2022

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

Frame size: 12 pixels

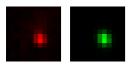
Coordinates: -111 um (x), 38.3 um (y), 21.8 um (z)

Corresponding bead: Not found



#### XY profile & fitting parameters :

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



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



A = 467.255 (brightness)

B = 122.941 (background)

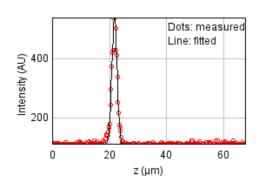
a = 0.769 px

b = -0.075 px

c = 0.564 px

xc = 6.945 pxyc = 6.591 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17805.1070

Standard deviation: 7.61558

R^2: 0.98615 Parameters:

a = 112.26665

b = 538.41645

c = 21.84122

Date: Mon Oct 17 13:51:43 PDT 2022

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

Frame size: 12 pixels

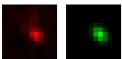
Coordinates: 150 um (x), 22.8 um (y), 21.6 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	421 nm	439 nm	270 nm
max	598 nm	623 nm	270 nm
Z	1.8 um	1.81 um	1.3 um
Asymmetry	0.704		
Theta	-51.2°		

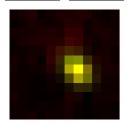
#### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.905$$



Parameters:

A = 275.854 (brightness)

B = 117.020 (background)

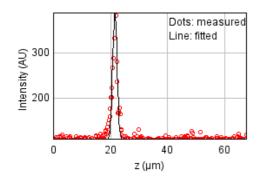
a = 0.606 px

b = -0.186 px

c = 0.524 px

xc = 6.848 pxyc = 6.009 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 42272.5764

Standard deviation: 11.73438

R^2: 0.91417 Parameters: a = 111.65984b = 387.48439c = 21.62632

Date: Mon Oct 17 13:51:43 PDT 2022

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

Frame size: 12 pixels

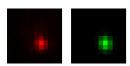
Coordinates: -22.2 um (x), 15.9 um (y), 22.4 um (z)

Corresponding bead: Not found

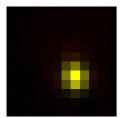
FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	489 nm	510 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.841		
Theta	-75.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 714.218 (brightness)

B = 127.224 (background)

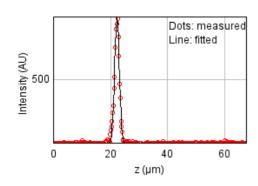
a = 0.778 px

b = -0.057 px

c = 0.575 px

xc = 6.976 pxyc = 7.159 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 36603.2330

Standard deviation: 10.91919

R^2: 0.99037 Parameters: a = 114.05694 b = 887.13936 c = 22.36704

# Bead 1107 (Rejected)

Date: Mon Oct 17 13:51:44 PDT 2022

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

Frame size: 12 pixels

Coordinates: -134 um (x), 12.7 um (y), 21.3 um (z)

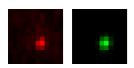
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

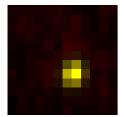
FWHM	Non corrected	Corrected	Theoretical
min	361 nm	376 nm	270 nm
max	438 nm	456 nm	270 nm
Z	2.16 um	2.17 um	1.3 um
Asymmetry	0.825		
Theta	74.2°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.898$$



Parameters:

A = 216.613 (brightness)

B = 114.784 (background)

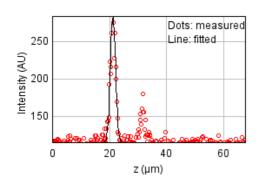
a = 1.005 px

b = 0.086 px

c = 0.725 px

xc = 6.690 pxyc = 6.986 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 31531.3414

Standard deviation: 10.13449

R^2: 0.86552 Parameters:

a = 114.36141

b = 284.30716

c = 21.30118

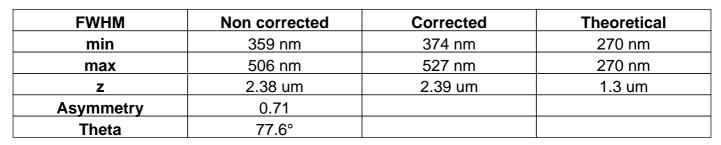
Date: Mon Oct 17 13:51:44 PDT 2022

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

Frame size: 12 pixels

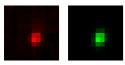
Coordinates: -161 um (x), 5.02 um (y), 22.0 um (z)

Corresponding bead: Not found

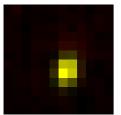


### XY profile & fitting parameters :

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



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



Parameters:

A = 411.981 (brightness)

B = 117.184 (background)

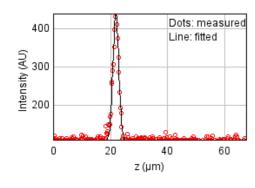
a = 1.016 px

b = 0.109 px

c = 0.548 px

xc = 6.405 pxyc = 6.701 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 21054.8086

Standard deviation: 8.28145

R^2: 0.97513 Parameters: a = 110.93341 b = 437.97102 c = 21.97425

Date: Mon Oct 17 13:51:44 PDT 2022

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

Frame size: 12 pixels

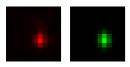
Coordinates: -18.9 um (x), -60.1 um (y), 21.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	520 nm	541 nm	270 nm
Z	2.07 um	2.07 um	1.3 um
Asymmetry	0.728		
Theta	-87.3°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 616.297 (brightness)

B = 123.374 (background)

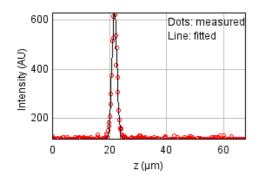
a = 0.937 px

b = -0.021 px

c = 0.498 px

xc = 6.986 pxyc = 6.813 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 62923.7112

Standard deviation: 14.31654

R^2: 0.96613 Parameters:

a = 114.59480

b = 630.60388

c = 21.83290

Date: Mon Oct 17 13:51:44 PDT 2022

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

Frame size: 12 pixels

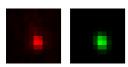
Coordinates: 120 um (x), -95.1 um (y), 22.2 um (z)

Corresponding bead: Not found

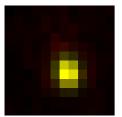
FWHM	Non corrected	Corrected	Theoretical
min	413 nm	430 nm	270 nm
max	539 nm	561 nm	270 nm
Z	2.36 um	2.37 um	1.3 um
Asymmetry	0.766		
Theta	-78.6°		

### XY profile & fitting parameters :

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



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



A = 450.990 (brightness)

B = 119.509 (background)

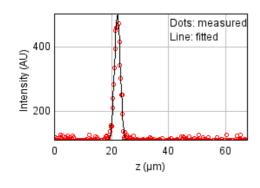
a = 0.775 px

b = -0.063 px

c = 0.475 px

xc = 6.391 pxyc = 6.814 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17983.6060

Standard deviation: 7.65366

R^2: 0.98489 Parameters: a = 111.69836

b = 502.93755

c = 22.16281

# Bead 1111 (Rejected)

Date: Mon Oct 17 13:51:44 PDT 2022

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

Frame size: 12 pixels

Coordinates: -105 um (x), 96.4 um (y), 22.1 um (z)

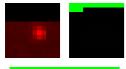
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

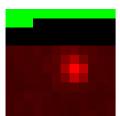
FWHM	Non corrected	Corrected	Theoretical
min	1.72 um	1.79 um	270 nm
max	3.41 um	3.55 um	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.504		
Theta	3.3°		

# XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.634$$



A = 223.401 (brightness)

B = -30.448 (background)

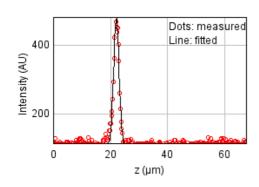
a = 0.012 px

b = 0.002 px

c = 0.045 px

xc = 6.268 pxyc = 7.198 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 26908.7791

Standard deviation: 9.36220

R^2: 0.97255

Parameters:

a = 114.86527

b = 481.46257

c = 22.14256

Date: Mon Oct 17 13:51:44 PDT 2022

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

Frame size: 12 pixels

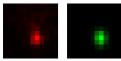
Coordinates: 36.9 um (x), 66.5 um (y), 22.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	395 nm	411 nm	270 nm
max	549 nm	572 nm	270 nm
Z	1.96 um	1.96 um	1.3 um
Asymmetry	0.719		
Theta	-87.3°		

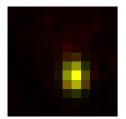
### XY profile & fitting parameters :

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





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



Parameters:

A = 485.878 (brightness)

B = 124.559 (background)

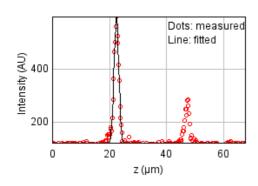
a = 0.860 px

b = -0.019 px

c = 0.446 px

xc = 6.810 pxyc = 7.078 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 188159.958

Standard deviation: 24.75679

R^2: 0.88544 Parameters: a = 120.06806b = 596.81139c = 22.51435

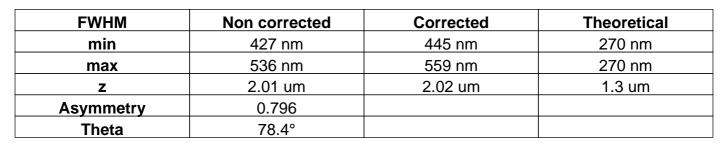
Date: Mon Oct 17 13:51:44 PDT 2022

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

Frame size: 12 pixels

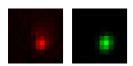
Coordinates: 119 um (x), 54.2 um (y), 22.3 um (z)

Corresponding bead: Not found

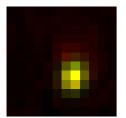


### XY profile & fitting parameters :

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



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



Parameters:

A = 360.119 (brightness)

B = 123.077 (background)

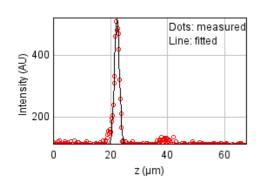
a = 0.726 px

b = 0.053 px

c = 0.478 px

xc = 6.806 pxyc = 7.116 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32026.4125

Standard deviation: 10.21374

R^2: 0.97173 Parameters: a = 113.51548 b = 523.08342 c = 22.34846

Date: Mon Oct 17 13:51:45 PDT 2022

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

Frame size: 12 pixels

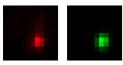
Coordinates: -52.3 um (x), 52.6 um (y), 22.9 um (z)

Corresponding bead: Not found

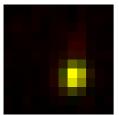
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	409 nm	270 nm
max	494 nm	514 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.795		
Theta	80.0°		

### XY profile & fitting parameters :

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



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



A = 627.782 (brightness)

B = 128.222 (background)

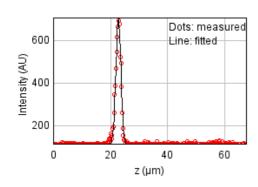
a = 0.862 px

b = 0.055 px

c = 0.560 px

xc = 7.234 pxyc = 7.344 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 29154.0180

Standard deviation: 9.74496

R^2: 0.98776 Parameters: a = 115.02242 b = 706.37652

c = 22.85550

Date: Mon Oct 17 13:51:45 PDT 2022

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

Frame size: 12 pixels

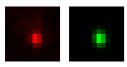
Coordinates: 136 um (x), 2.64 um (y), 22.0 um (z)

Corresponding bead: Not found

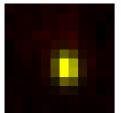
FWHM	Non corrected	Corrected	Theoretical
min	403 nm	420 nm	270 nm
max	524 nm	545 nm	270 nm
Z	2.29 um	2.3 um	1.3 um
Asymmetry	0.769		
Theta	-83.5°		

### XY profile & fitting parameters :

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



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



A = 430.276 (brightness)

B = 119.818 (background)

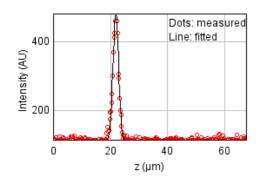
a = 0.823 px

b = -0.038 px

c = 0.494 px

xc = 6.251 pxyc = 6.503 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21937.6690

Standard deviation: 8.45330

R^2: 0.97898 Parameters:

a = 111.97596

b = 482.76650

c = 21.96129

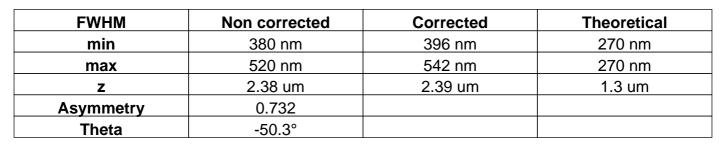
Date: Mon Oct 17 13:51:45 PDT 2022

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

Frame size: 12 pixels

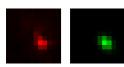
Coordinates: 3.58 um (x), 107 nm (y), 22.5 um (z)

Corresponding bead: Not found

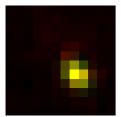


#### XY profile & fitting parameters :

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



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



A = 445.558 (brightness)

B = 123.628 (background)

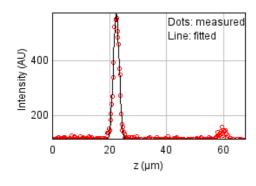
a = 0.751 px

b = -0.212 px

c = 0.672 px

xc = 7.273 pxyc = 7.012 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 31728.7493

Standard deviation: 10.16617

R^2: 0.98060 Parameters: a = 115.66982 b = 571.53599 c = 22.47510

Date: Mon Oct 17 13:51:45 PDT 2022

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

Frame size: 12 pixels

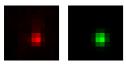
Coordinates: -59.0 um (x), -8.65 um (y), 22.2 um (z)

Corresponding bead: Not found

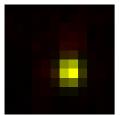
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	407 nm	270 nm
max	465 nm	484 nm	270 nm
Z	1.98 um	1.99 um	1.3 um
Asymmetry	0.841		
Theta	-89.7°		

### XY profile & fitting parameters :

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



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



A = 734.419 (brightness)

B = 128.449 (background)

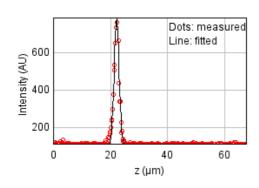
a = 0.879 px

b = -0.001 px

c = 0.621 px

xc = 6.636 pxyc = 6.813 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 55356.4666

Standard deviation: 13.42811

R^2: 0.98142 Parameters: a = 113.39524

b = 785.15008

c = 22.24901

Date: Mon Oct 17 13:51:45 PDT 2022

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

Frame size: 12 pixels

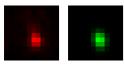
Coordinates: 48.9 um (x), -17.9 um (y), 22.5 um (z)

Corresponding bead: Not found

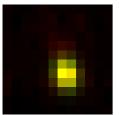
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	578 nm	602 nm	270 nm
Z	2.3 um	2.31 um	1.3 um
Asymmetry	0.73		
Theta	-79.0°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 595.905 (brightness)

B = 129.720 (background)

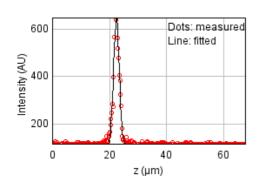
a = 0.741 px

b = -0.066 px

c = 0.414 px

xc = 6.420 pxyc = 7.054 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 46444.1807

Standard deviation: 12.29976

R^2: 0.97863 Parameters: a = 113.85071 b = 647.85019 c = 22.51446

Date: Mon Oct 17 13:51:45 PDT 2022

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

Frame size: 12 pixels

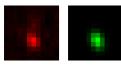
Coordinates: 118 um (x), -31.2 um (y), 21.2 um (z)

Corresponding bead: Not found

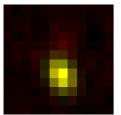
FWHM	Non corrected	Corrected	Theoretical
min	441 nm	460 nm	270 nm
max	620 nm	646 nm	270 nm
Z	2.34 um	2.35 um	1.3 um
Asymmetry	0.712		
Theta	-67.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 261.368 (brightness)

B = 117.043 (background)

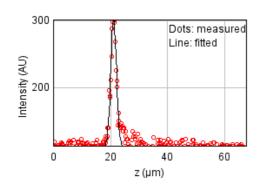
a = 0.640 px

b = -0.119 px

c = 0.397 px

xc = 5.808 pxyc = 7.182 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22743.6252

Standard deviation: 8.60718

R^2: 0.92219 Parameters: a = 113.67428 b = 302.15346

c = 21.17777

Date: Mon Oct 17 13:51:45 PDT 2022

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

Frame size: 12 pixels

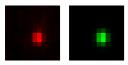
Coordinates: -87.4 um (x), -36.3 um (y), 22.0 um (z)

Corresponding bead: Not found

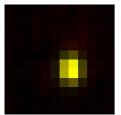
FWHM	Non corrected	Corrected	Theoretical
min	394 nm	410 nm	270 nm
max	487 nm	508 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.807		
Theta	89.9°		

#### XY profile & fitting parameters :

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



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



A = 615.746 (brightness)

B = 122.549 (background)

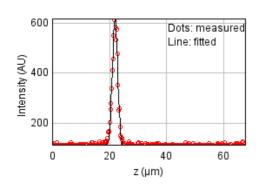
a = 0.866 px

b = 0.000 px

c = 0.565 px

xc = 6.738 pxyc = 6.551 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 27596.7869

Standard deviation: 9.48113

R^2: 0.98493 Parameters:

a = 112.95486

b = 617.34253

c = 22.03520

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

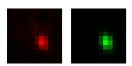
Coordinates: 130 um (x), -84.6 um (y), 21.6 um (z)

Corresponding bead: Not found

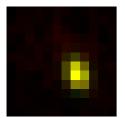
FWHM	Non corrected	Corrected	Theoretical
min	380 nm	395 nm	270 nm
max	550 nm	573 nm	270 nm
Z	1.97 um	1.98 um	1.3 um
Asymmetry	0.69		
Theta	-72.2°		

### XY profile & fitting parameters :

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



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



A = 357.477 (brightness)

B = 118.385 (background)

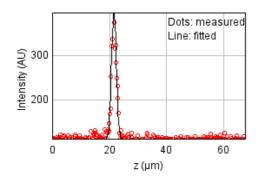
a = 0.885 px

b = -0.142 px

c = 0.489 px

xc = 7.231 pxyc = 6.830 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23983.4587

Standard deviation: 8.83867

R^2: 0.95657 Parameters:

a = 111.29035

b = 397.58172

c = 21.64616

# Bead 1122 (Rejected)

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

Coordinates: 155 um (x), 78.7 um (y), 21.8 um (z)

Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	368 nm	383 nm	270 nm
max	588 nm	613 nm	270 nm
Z	2.31 um	2.32 um	1.3 um
Asymmetry	0.625		
Theta	-88.4°		

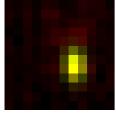
### XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.857$$



xc = 7.157 px

yc = 6.586 px

Parameters:

A = 198.207 (brightness)

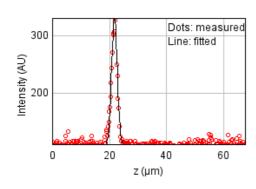
B = 118.698 (background)

a = 0.993 px

b = -0.017 px

c = 0.388 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 17031.4033

Standard deviation: 7.44828

R^2: 0.95530 Parameters:

a = 110.74321

b = 330.94998

c = 21.83083

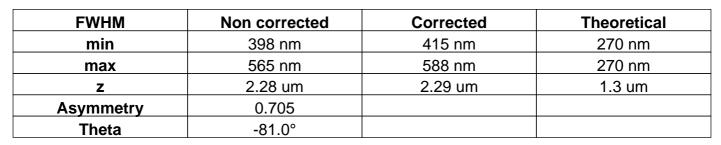
Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

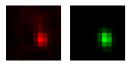
Coordinates: 73.1 um (x), 69.9 um (y), 22.2 um (z)

Corresponding bead: Not found

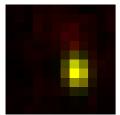


### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.901$$



Parameters:

A = 306.114 (brightness)

B = 120.399 (background)

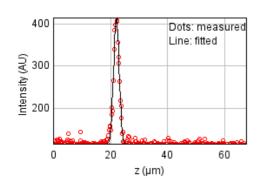
a = 0.836 px

b = -0.066 px

c = 0.431 px

xc = 7.251 pxyc = 6.818 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19677.1991

Standard deviation: 8.00594

R^2: 0.97164 Parameters: a = 113.86941 b = 415.84145 c = 22.15786

# Bead 1124 (Rejected)

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

Coordinates: 106 um (x), 56.4 um (y), 20.9 um (z)

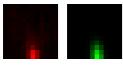
Corresponding bead: Not found

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

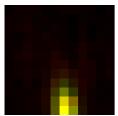
FWHM	Non corrected	Corrected	Theoretical
min	400 nm	417 nm	270 nm
max	927 nm	966 nm	270 nm
Z	4.08 um	4.09 um	1.3 um
Asymmetry	0.432		
Theta	-84.5°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 416.967 (brightness)

B = 121.918 (background)

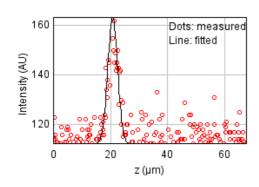
a = 0.831 px

b = -0.064 px

c = 0.162 px

xc = 6.173 pxyc = 11.190 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 13444.2527

Standard deviation: 6.61758

R^2: 0.71017

Parameters:

a = 112.14234

b = 163.10557

c = 20.86020

# Bead 1125 (Rejected)

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

Coordinates: 135 um (x), 56.3 um (y), 21.4 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	755 nm	786 nm	270 nm
max	998 nm	1.04 um	270 nm
Z	2.36 um	2.37 um	1.3 um
Asymmetry	0.756		
Theta	-83.0°		

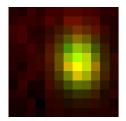
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.795$$



xc = 7.187 pxyc = 5.498 px

#### Parameters:

A = 111.873 (brightness)

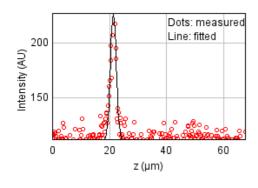
B = 119.082 (background)

a = 0.234 px

b = -0.012 px

c = 0.136 px

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



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

Sum of residuals squared: 22764.7075

Standard deviation: 8.61116

R^2: 0.81885

Parameters:

a = 111.76557

b = 227.82190

c = 21.43833

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

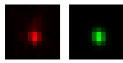
Coordinates: -27.7 um (x), 4.6 um (y), 22.6 um (z)

Corresponding bead: Not found

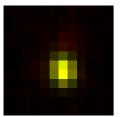
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	517 nm	538 nm	270 nm
Z	2.19 um	2.2 um	1.3 um
Asymmetry	0.801		
Theta	-81.7°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 660.355 (brightness)

B = 125.386 (background)

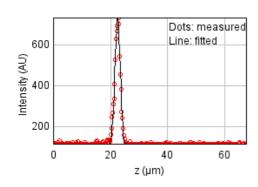
a = 0.776 px

b = -0.040 px

c = 0.508 px

xc = 6.001 pxyc = 6.577 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 31534.6050

Standard deviation: 10.13502

R^2: 0.98862 Parameters:

a = 114.24182

b = 734.51265

c = 22.58384

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

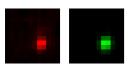
Coordinates: -98.0 um (x), -592 nm (y), 22.7 um (z)

Corresponding bead: Not found

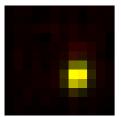
FWHM	Non corrected	Corrected	Theoretical
min	382 nm	398 nm	270 nm
max	469 nm	489 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.815		
Theta	78.6°		

# XY profile & fitting parameters :

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



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



A = 538.013 (brightness)

B = 121.710 (background)

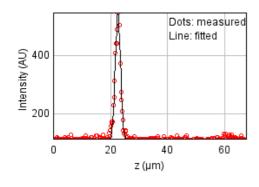
a = 0.905 px

b = 0.060 px

c = 0.621 px

xc = 7.457 pxyc = 7.189 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 32868.0019

Standard deviation: 10.34707

R^2: 0.97561 Parameters: a = 113.50163 b = 546.59849

c = 22.67865

# Bead 1128 (Rejected)

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

Coordinates: -67.0 um (x), -6.18 um (y), 23.1 um (z)

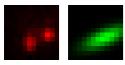
Corresponding bead: Not found

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

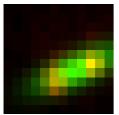
FWHM	Non corrected	Corrected	Theoretical
min	594 nm	618 nm	270 nm
max	1.66 um	1.73 um	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.358		
Theta	23.1°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.668$$



A = 316.536 (brightness) B = 126.639 (background)

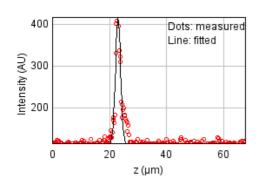
a = 0.100 px

b = 0.120 px

c = 0.330 px

xc = 7.598 pxyc = 6.584 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 56052.4197

Standard deviation: 13.51226

R^2: 0.91839 Parameters:

a = 114.22596

b = 417.52029

c = 23.07403

Date: Mon Oct 17 13:51:46 PDT 2022

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

Frame size: 12 pixels

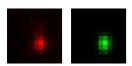
Coordinates: 60.0 um (x), -60.4 um (y), 22.5 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	408 nm	425 nm	270 nm
max	569 nm	593 nm	270 nm
Z	1.77 um	1.77 um	1.3 um
Asymmetry	0.717		
Theta	87.9°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 452.571 (brightness)

B = 122.005 (background)

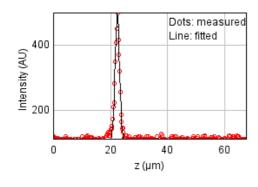
a = 0.805 px

b = 0.014 px

c = 0.415 px

xc = 6.768 pxyc = 7.156 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23365.8774

Standard deviation: 8.72412

R^2: 0.97352 Parameters:

a = 112.79503

b = 497.40810

c = 22.47635

Date: Mon Oct 17 13:51:47 PDT 2022

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

Frame size: 12 pixels

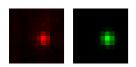
Coordinates: 161 um (x), -69.4 um (y), 22.6 um (z)

Corresponding bead: Not found

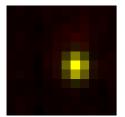
FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	472 nm	492 nm	270 nm
Z	2.18 um	2.19 um	1.3 um
Asymmetry	0.87		
Theta	-83.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 396.469 (brightness)

B = 118.210 (background)

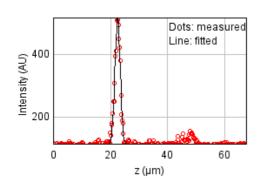
a = 0.793 px

b = -0.022 px

c = 0.605 px

xc = 7.103 pxyc = 6.114 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 35407.9118

Standard deviation: 10.73942

R^2: 0.97017 Parameters: a = 113.70167

b = 516.52506

c = 22.57607

Date: Mon Oct 17 13:51:47 PDT 2022

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

Frame size: 12 pixels

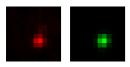
Coordinates: -149 um (x), -88.8 um (y), 22.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	391 nm	407 nm	270 nm
max	439 nm	457 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.891		
Theta	67.1°		

### 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 = 491.305 (brightness)

B = 120.345 (background)

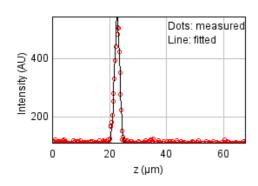
a = 0.852 px

b = 0.065 px

c = 0.725 px

xc = 6.718 pxyc = 7.023 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 24423.0954

Standard deviation: 8.91931

R^2: 0.98181 Parameters: a = 110.35674 b = 547.03801 c = 22.75435

# Bead 1132 (Rejected)

Date: Mon Oct 17 13:51:47 PDT 2022

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

Frame size: 12 pixels

Coordinates: 15.3 um (x), 55.2 um (y), 22.3 um (z)

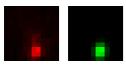
Corresponding bead: Not found

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

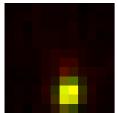
FWHM	Non corrected	Corrected	Theoretical
min	395 nm	411 nm	270 nm
max	523 nm	545 nm	270 nm
Z	3.8 um	3.82 um	1.3 um
Asymmetry	0.755		
Theta	81.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 538.845 (brightness)

B = 127.600 (background)

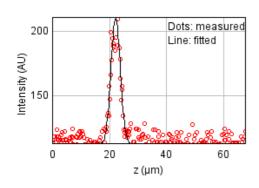
a = 0.851 px

b = 0.057 px

c = 0.499 px

xc = 6.501 pxyc = 9.373 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 14125.5547

Standard deviation: 6.78318

R^2: 0.89033 Parameters:

a = 112.99872

b = 211.11977

c = 22.25078

Date: Mon Oct 17 13:51:47 PDT 2022

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

Frame size: 12 pixels

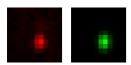
Coordinates: -160 um (x), 50.5 um (y), 22.0 um (z)

Corresponding bead: Not found

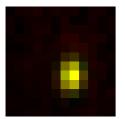
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	558 nm	581 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.694		
Theta	87.7°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 302.933 (brightness)

B = 115.078 (background)

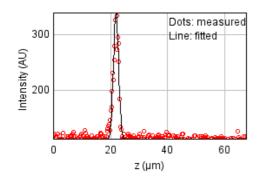
a = 0.895 px

b = 0.018 px

c = 0.432 px

xc = 6.720 pxyc = 7.036 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25785.5463

Standard deviation: 9.16472

R^2: 0.93319 Parameters: a = 111.15901 b = 340.11203

c = 22.03232d = 0.89473

Date: Mon Oct 17 13:51:47 PDT 2022

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

Frame size: 12 pixels

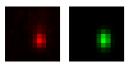
Coordinates: 41.2 um (x), 23.7 um (y), 22.7 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	402 nm	419 nm	270 nm
max	604 nm	629 nm	270 nm
Z	2.29 um	2.3 um	1.3 um
Asymmetry	0.665		
Theta	-88.4°		

### XY profile & fitting parameters :

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



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



A = 495.521 (brightness)

B = 121.549 (background)

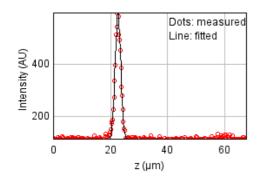
a = 0.830 px

b = -0.013 px

c = 0.368 px

xc = 7.162 pxyc = 6.794 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21437.6739

Standard deviation: 8.35641

R^2: 0.98761 Parameters: a = 114.53398 b = 593.72607 c = 22.70686

Date: Mon Oct 17 13:51:47 PDT 2022

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

Frame size: 12 pixels

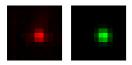
Coordinates: -61.0 um (x), -29.6 um (y), 23.0 um (z)

Corresponding bead: Not found

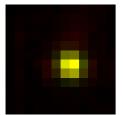
FWHM	Non corrected	Corrected	Theoretical
min	440 nm	458 nm	270 nm
max	465 nm	485 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.945		
Theta	-69.1°		

### XY profile & fitting parameters :

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



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



A = 636.526 (brightness)

B = 124.220 (background)

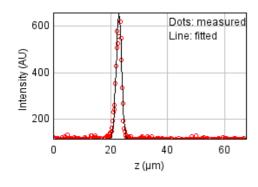
a = 0.684 px

b = -0.024 px

c = 0.629 px

xc = 6.592 pxyc = 6.132 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 52402.9490

Standard deviation: 13.06498

R^2: 0.97632 Parameters: a = 113.57409 b = 658.90341 c = 23.02169

# Bead 1136 (Rejected)

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

Coordinates: 72.5 um (x), -34.5 um (y), 19.7 um (z)

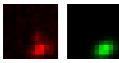
Corresponding bead: Not found

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

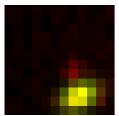
FWHM	Non corrected	Corrected	Theoretical
min	470 nm	489 nm	270 nm
max	686 nm	714 nm	270 nm
Z	2.72 um	2.73 um	1.3 um
Asymmetry	0.685		
Theta	25.8°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.885$$



Parameters:

A = 299.012 (brightness)

B = 122.793 (background)

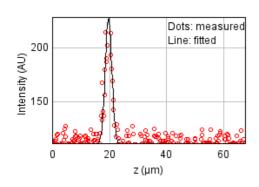
a = 0.347 px

b = 0.127 px

c = 0.547 px

xc = 7.659 pxyc = 9.425 px

#### Z profile & fitting parameters:



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

Sum of residuals squared: 17468.4828

Standard deviation: 7.54325

R^2: 0.87253 Parameters:

a = 111.55407

b = 228.47760

c = 19.73819

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

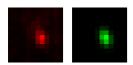
Coordinates: 141 um (x), -41.1 um (y), 22.3 um (z)

Corresponding bead: Not found

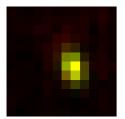
FWHM	Non corrected	Corrected	Theoretical
min	382 nm	398 nm	270 nm
max	586 nm	611 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.651		
Theta	-72.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 281.340 (brightness)

B = 117.755 (background)

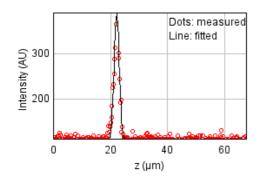
a = 0.875 px

b = -0.150 px

c = 0.437 px

xc = 6.745 pxyc = 6.108 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21633.8913

Standard deviation: 8.39456

R^2: 0.96136 Parameters: a = 110.46112 b = 391.34859 c = 22.27621

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

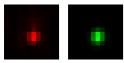
Coordinates: -76.3 um (x), -44.2 um (y), 23.1 um (z)

Corresponding bead: Not found

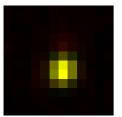
FWHM	Non corrected	Corrected	Theoretical
min	426 nm	444 nm	270 nm
max	490 nm	510 nm	270 nm
Z	2.16 um	2.17 um	1.3 um
Asymmetry	0.87		
Theta	78.2°		

## XY profile & fitting parameters :

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



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



A = 666.374 (brightness)

B = 123.061 (background)

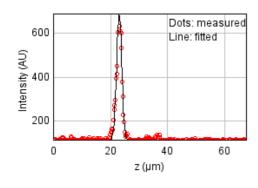
a = 0.732 px

b = 0.036 px

c = 0.567 px

xc = 5.973 pxyc = 6.565 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 58662.3895

Standard deviation: 13.82327

R^2: 0.97533 Parameters: a = 114.53229 b = 688.96933 c = 23.13035 d = 0.91613

# Bead 1139 (Rejected)

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

Coordinates: -164 um (x), 76.3 um (y), 22.0 um (z)

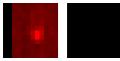
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	2.57 um	2.58 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

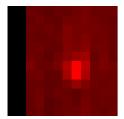
## XY profile & fitting parameters :

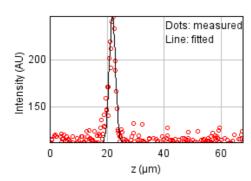
(red: the original data, green: the fit, yellow: the two merged)



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: 20673.0211

Standard deviation: 8.20602

R^2: 0.87948 Parameters:

a = 111.44682

b = 246.40898

c = 21.95432

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

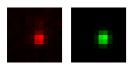
Coordinates: -120 um (x), 59.0 um (y), 23.1 um (z)

Corresponding bead: Not found

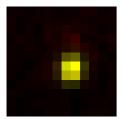
FWHM	Non corrected	Corrected	Theoretical
min	391 nm	407 nm	270 nm
max	465 nm	484 nm	270 nm
Z	2.3 um	2.31 um	1.3 um
Asymmetry	0.841		
Theta	83.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 425.225 (brightness)

B = 121.864 (background)

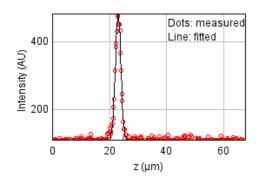
a = 0.875 px

b = 0.030 px

c = 0.625 px

xc = 6.582 pxyc = 6.280 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 18662.1010

Standard deviation: 7.79670

R^2: 0.98211 Parameters: a = 111.48222 b = 481.56437

c = 23.11145

## Bead 1141 (Rejected)

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

Coordinates: 84.7 um (x), 38.0 um (y), 20.4 um (z)

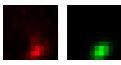
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	462 nm	481 nm	270 nm
max	657 nm	684 nm	270 nm
Z	3.9 um	3.91 um	1.3 um
Asymmetry	0.703		
Theta	43.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 284.401 (brightness)

B = 121.979 (background)

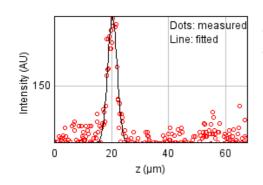
a = 0.463 px

b = 0.159 px

c = 0.477 px

xc = 6.834 pxyc = 9.662 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 15985.5157

Standard deviation: 7.21596

R^2: 0.83934 Parameters: a = 112.97073

b = 195.80025

c = 20.39583

## Bead 1142 (Rejected)

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

Coordinates: -67.7 um (x), 8.96 um (y), 20.0 um (z)

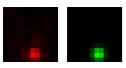
Corresponding bead: Not found

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

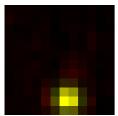
FWHM	Non corrected	Corrected	Theoretical
min	442 nm	460 nm	270 nm
max	452 nm	471 nm	270 nm
Z	3.35 um	3.37 um	1.3 um
Asymmetry	0.978		
Theta	-80.7°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 516.626 (brightness) B = 126.043 (background)

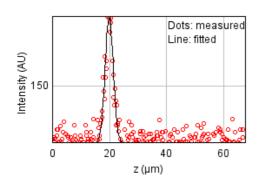
a = 0.687 px

b = -0.005 px

c = 0.658 px

xc = 6.382 pxyc = 9.790 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 12659.8190

Standard deviation: 6.42162

R^2: 0.85101

Parameters:

a = 113.16675

b = 195.70671

c = 19.98529

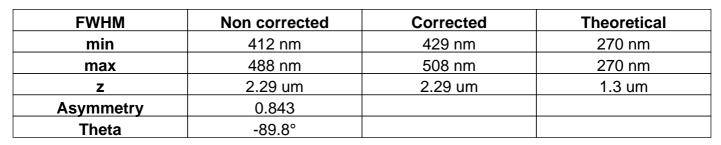
Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

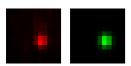
Coordinates: -138 um (x), 1.08 um (y), 22.9 um (z)

Corresponding bead: Not found



## XY profile & fitting parameters :

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



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



Parameters:

A = 598.138 (brightness)

B = 124.692 (background)

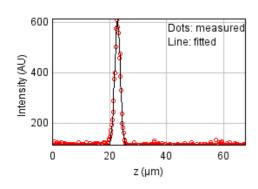
a = 0.792 px

b = -0.001 px

c = 0.563 px

xc = 7.246 pxyc = 6.583 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 25066.4785

Standard deviation: 9.03603

R^2: 0.98684 Parameters: a = 112.17669

b = 615.40652

c = 22.88773

Date: Mon Oct 17 13:51:48 PDT 2022

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

Frame size: 12 pixels

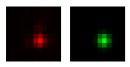
Coordinates: -37.0 um (x), -15.1 um (y), 23.2 um (z)

Corresponding bead: Not found

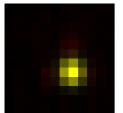
FWHM	Non corrected	Corrected	Theoretical
min	419 nm	437 nm	270 nm
max	472 nm	492 nm	270 nm
Z	1.87 um	1.87 um	1.3 um
Asymmetry	0.888		
Theta	-85.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 760.679 (brightness)

B = 124.941 (background)

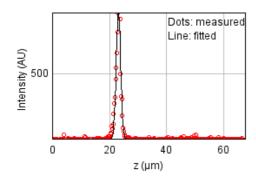
a = 0.763 px

b = -0.012 px

c = 0.603 px

xc = 6.836 pxyc = 6.964 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 81974.1977

Standard deviation: 16.34065

R^2: 0.97678 Parameters: a = 115.05193 b = 865.54047 c = 23.21653

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Date: Mon Oct 17 13:51:49 PDT 2022

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

Frame size: 12 pixels

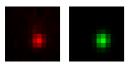
Coordinates: 114 um (x), -32.9 um (y), 23.1 um (z)

Corresponding bead: Not found

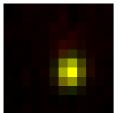
FWHM	Non corrected	Corrected	Theoretical
min	437 nm	455 nm	270 nm
max	530 nm	552 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.825		
Theta	86.7°		

## XY profile & fitting parameters :

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



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



A = 505.330 (brightness)

B = 120.526 (background)

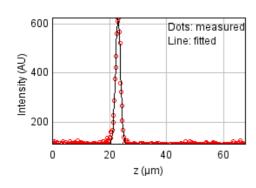
a = 0.701 px

b = 0.013 px

c = 0.479 px

xc = 6.777 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: 21236.3888

Standard deviation: 8.31709

R^2: 0.98815 Parameters: a = 112.23574

b = 624.38208

c = 23.06565

## Bead 1146 (Rejected)

Date: Mon Oct 17 13:51:49 PDT 2022

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

Frame size: 12 pixels

Coordinates: -12.7 um (x), -49.4 um (y), 23.3 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	550 nm	573 nm	270 nm
max	1.41 um	1.47 um	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.391		
Theta	51.1°		

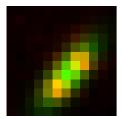
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.750$$



$$xc = 6.241 px$$
  
 $yc = 6.853 px$ 

Parameters:

A = 445.451 (brightness)

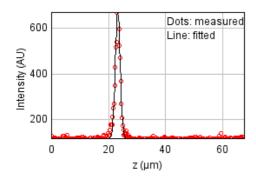
B = 124.147 (background)

a = 0.295 px

b = 0.183 px

c = 0.216 px

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



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

Sum of residuals squared: 30245.8976

Standard deviation: 9.92577

R^2: 0.98555

Parameters:

a = 114.41761

b = 670.72419

c = 23.33178

Date: Mon Oct 17 13:51:49 PDT 2022

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

Frame size: 12 pixels

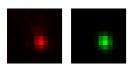
Coordinates: 113 um (x), -61.7 um (y), 23.1 um (z)

Corresponding bead: Not found

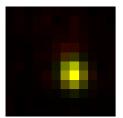
FWHM	Non corrected	Corrected	Theoretical
min	423 nm	441 nm	270 nm
max	526 nm	548 nm	270 nm
Z	2.15 um	2.16 um	1.3 um
Asymmetry	0.804		
Theta	-78.4°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 527.628 (brightness)

B = 122.695 (background)

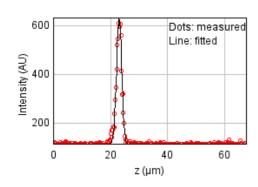
a = 0.738 px

b = -0.052 px

c = 0.495 px

xc = 6.840 pxyc = 6.816 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25506.9295

Standard deviation: 9.11507

R^2: 0.98682 Parameters: a = 112.16306 b = 634.04915

c = 23.11269

Date: Mon Oct 17 13:51:49 PDT 2022

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

Frame size: 12 pixels

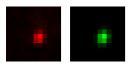
Coordinates: -148 um (x), -69.0 um (y), 22.7 um (z)

Corresponding bead: Not found

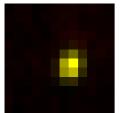
FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	484 nm	504 nm	270 nm
Z	2.41 um	2.42 um	1.3 um
Asymmetry	0.781		
Theta	72.9°		

## XY profile & fitting parameters :

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



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



A = 457.331 (brightness)

B = 117.822 (background)

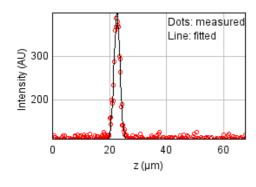
a = 0.907 px

b = 0.103 px

c = 0.604 px

xc = 6.728 pxyc = 6.261 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19368.1498

Standard deviation: 7.94282

R^2: 0.97080 Parameters: a = 111.41793 b = 398.54115

000.0411

c = 22.71938

Date: Mon Oct 17 13:51:49 PDT 2022

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

Frame size: 12 pixels

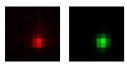
Coordinates: -58.3 um (x), -71.0 um (y), 22.9 um (z)

Corresponding bead: Not found

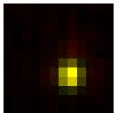
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	408 nm	270 nm
max	458 nm	477 nm	270 nm
Z	2.05 um	2.05 um	1.3 um
Asymmetry	0.857		
Theta	87.0°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 492.244 (brightness)

B = 122.341 (background)

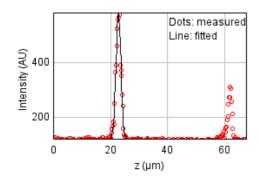
a = 0.872 px

b = 0.012 px

c = 0.642 px

xc = 6.783 pxyc = 7.307 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 225907.696

Standard deviation: 27.12666

R^2: 0.86481 Parameters: a = 118.93878

b = 584.00594

c = 22.87918

## Bead 1150 (Rejected)

Date: Mon Oct 17 13:51:49 PDT 2022

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

Frame size: 12 pixels

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

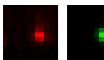
Corresponding bead: Not found

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

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

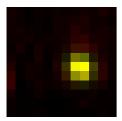
## XY profile & fitting parameters :

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





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



Parameters:

A = 481.136 (brightness)

B = 128.903 (background)

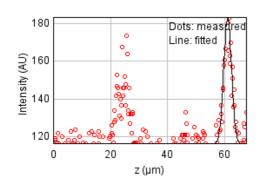
a = 0.754 px

b = -0.061 px

c = 0.642 px

xc = 7.543 pxyc = 6.137 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 37823.1314

Standard deviation: 11.09966

R^2: 0.54844 Parameters:

a = 116.13135

b = 183.45477

c = 61.11352

Date: Mon Oct 17 13:51:49 PDT 2022

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

Frame size: 12 pixels

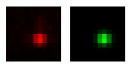
Coordinates: -75.3 um (x), -83.8 um (y), 22.5 um (z)

Corresponding bead: Not found

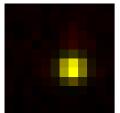
FWHM	Non corrected	Corrected	Theoretical
min	439 nm	457 nm	270 nm
max	465 nm	485 nm	270 nm
Z	2.13 um	2.14 um	1.3 um
Asymmetry	0.943		
Theta	3.3°		

### XY profile & fitting parameters :

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



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



A = 464.446 (brightness)

B = 121.932 (background)

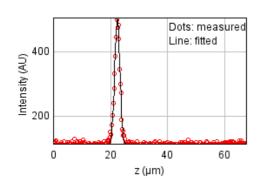
a = 0.620 px

b = 0.004 px

c = 0.696 px

xc = 6.881 pxyc = 6.581 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 16820.8812

Standard deviation: 7.40210

R^2: 0.98442 Parameters:

a = 114.33585

b = 505.68347

c = 22.47806

Date: Mon Oct 17 13:51:50 PDT 2022

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

Frame size: 12 pixels

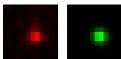
Coordinates: 2.78 um (x), -84.7 um (y), 23.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	496 nm	517 nm	270 nm
max	513 nm	534 nm	270 nm
Z	1.94 um	1.95 um	1.3 um
Asymmetry	0.967		
Theta	-63.3°		

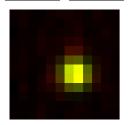
## XY profile & fitting parameters :

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





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



Parameters:

A = 452.290 (brightness)

B = 120.837 (background)

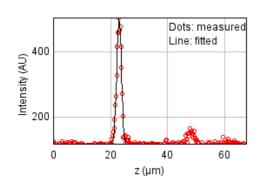
a = 0.538 px

b = -0.014 px

c = 0.518 px

xc = 6.654 pxyc = 6.487 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 38543.4054

Standard deviation: 11.20485

R^2: 0.96079 Parameters:

a = 117.03478

b = 502.39074

c = 23.09218

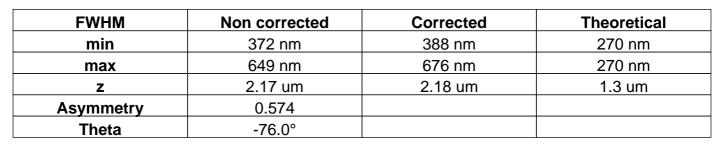
Date: Mon Oct 17 13:51:50 PDT 2022

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

Frame size: 12 pixels

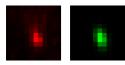
Coordinates: 77.9 um (x), 86.2 um (y), 22.9 um (z)

Corresponding bead: Not found

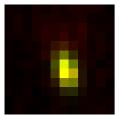


## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.924$$



A = 373.682 (brightness)

B = 121.358 (background)

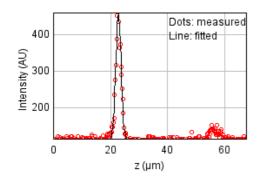
a = 0.930 px

b = -0.152 px

c = 0.357 px

xc = 6.232 pxyc = 6.659 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 34063.7095

Standard deviation: 10.53360

R^2: 0.96098 Parameters: a = 115.60155 b = 460.35345

c = 22.86652

# Bead 1154 (Rejected)

Date: Mon Oct 17 13:51:50 PDT 2022

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

Frame size: 12 pixels

Coordinates: 135 um (x), 56.3 um (y), 21.4 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	730 nm	760 nm	270 nm
max	943 nm	982 nm	270 nm
Z	2.36 um	2.37 um	1.3 um
Asymmetry	0.774		
Theta	-82.8°		

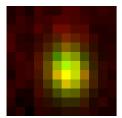
## XY profile & fitting parameters :

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





Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.792$$



A = 113.338 (brightness)

B = 120.932 (background)

a = 0.251 px

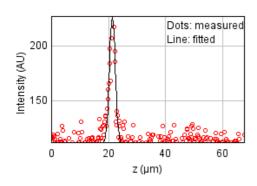
Parameters:

b = -0.013 px

c = 0.153 px

xc = 6.193 pxyc = 6.556 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 22764.7075

Standard deviation: 8.61116

R^2: 0.81885 Parameters:

a = 111.76557

b = 227.82190

c = 21.43833

# Bead 1155 (Rejected)

Date: Mon Oct 17 13:51:50 PDT 2022

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

Frame size: 12 pixels

Coordinates: 9.81 um (x), 34.3 um (y), 23.2 um (z)

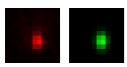
Corresponding bead: Not found

Reason of rejection: R or C parameter off limits.

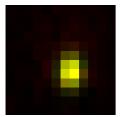
FWHM	Non corrected	Corrected	Theoretical
min	404 nm	421 nm	270 nm
max	584 nm	609 nm	270 nm
Z	1.93 um	1.94 um	1.3 um
Asymmetry	0.691		
Theta	88.2°		

## XY profile & fitting parameters :

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



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



A = 505.124 (brightness)

B = 122.915 (background)

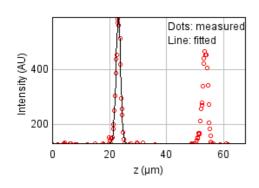
a = 0.822 px

b = 0.013 px

c = 0.393 px

xc = 6.603 pxyc = 6.739 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 971265.196

Standard deviation: 56.24705

R^2: 0.58488 Parameters:

a = 128.77824

b = 593.80315

c = 23.16807

Date: Mon Oct 17 13:51:50 PDT 2022

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

Frame size: 12 pixels

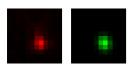
Coordinates: 3.46 um (x), 29.6 um (y), 23.9 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	419 nm	436 nm	270 nm
max	510 nm	531 nm	270 nm
Z	1.81 um	1.82 um	1.3 um
Asymmetry	0.82		
Theta	-75.8°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 787.989 (brightness)

B = 129.515 (background)

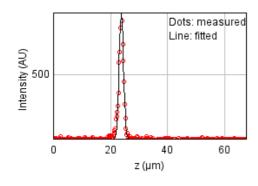
a = 0.751 px

b = -0.060 px

c = 0.531 px

xc = 6.746 pxyc = 7.062 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 44526.4335

Standard deviation: 12.04314

R^2: 0.98734 Parameters: a = 114.71134

b = 878.41314

c = 23.88583

# Bead 1157 (Rejected)

Date: Mon Oct 17 13:51:50 PDT 2022

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

Frame size: 12 pixels

Coordinates: -113 um (x), 16.5 um (y), 10.3 um (z)

Corresponding bead: Not found

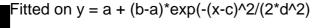
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.22 um	3.23 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

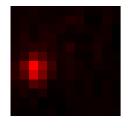
## XY profile & fitting parameters :

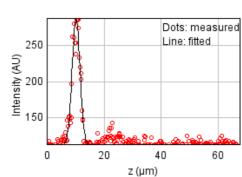
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 31863.4696

Standard deviation: 10.18773

R^2: 0.90688 Parameters: a = 113.05451 b = 287.31728 c = 10.29046

Date: Mon Oct 17 13:51:50 PDT 2022

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

Frame size: 12 pixels

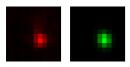
Coordinates: 57.0 um (x), -8.41 um (y), 23.3 um (z)

Corresponding bead: Not found

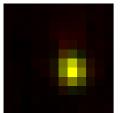
FWHM	Non corrected	Corrected	Theoretical
min	435 nm	454 nm	270 nm
max	538 nm	560 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.809		
Theta	-74.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 481.222 (brightness)

B = 121.555 (background)

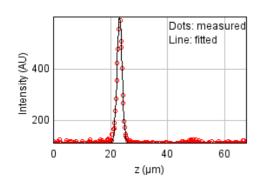
a = 0.691 px

b = -0.062 px

c = 0.480 px

xc = 6.977 pxyc = 6.747 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17260.5885

Standard deviation: 7.49823

R^2: 0.98942 Parameters:

a = 114.42776

b = 599.70769

c = 23.26687

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

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

Frame size: 12 pixels

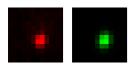
Coordinates: -160 um (x), -13.0 um (y), 23.0 um (z)

Corresponding bead: Not found

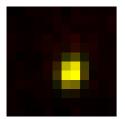
FWHM	Non corrected	Corrected	Theoretical
min	410 nm	427 nm	270 nm
max	514 nm	535 nm	270 nm
Z	2.36 um	2.37 um	1.3 um
Asymmetry	0.798		
Theta	73.4°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 426.667 (brightness)

B = 119.414 (background)

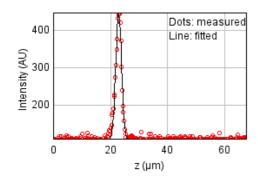
a = 0.776 px

b = 0.080 px

c = 0.532 px

xc = 6.576 pxyc = 6.695 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 20062.7534

Standard deviation: 8.08400

R^2: 0.97738 Parameters: a = 110.39793 b = 447.00861

c = 22.95123

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

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

Frame size: 12 pixels

Coordinates: -108 um (x), -22.8 um (y), 22.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	414 nm	432 nm	270 nm
max	651 nm	678 nm	270 nm
Z	2.07 um	2.08 um	1.3 um
Asymmetry	0.637		
Theta	74.8°		

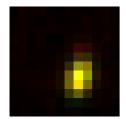
### XY profile & fitting parameters :

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





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



Parameters:

A = 444.341 (brightness)

B = 118.796 (background)

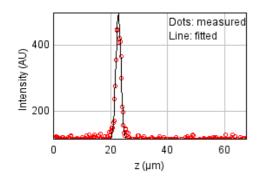
a = 0.749 px

b = 0.118 px

c = 0.349 px

xc = 7.133 pxyc = 7.228 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25795.3419

Standard deviation: 9.16646

R^2: 0.97493 Parameters:

a = 114.36862

b = 499.76770

c = 22.84866

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

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

Frame size: 12 pixels

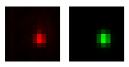
Coordinates: -87.5 um (x), -30.2 um (y), 23.5 um (z)

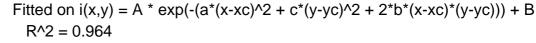
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	386 nm	402 nm	270 nm
max	480 nm	499 nm	270 nm
Z	2.11 um	2.11 um	1.3 um
Asymmetry	0.805		
Theta	-85.4°		

## XY profile & fitting parameters :

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







A = 588.825 (brightness)

B = 121.165 (background)

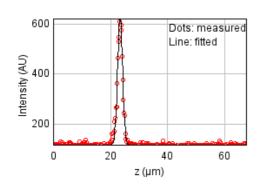
a = 0.899 px

b = -0.025 px

c = 0.586 px

xc = 7.129 pxyc = 6.573 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 28526.2717

Standard deviation: 9.63947

R^2: 0.98419 Parameters:

a = 114.70887

b = 623.13629

c = 23.45297

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

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

Frame size: 12 pixels

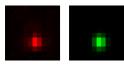
Coordinates: -36.0 um (x), -37.2 um (y), 23.3 um (z)

Corresponding bead: Not found

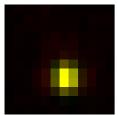
FWHM	Non corrected	Corrected	Theoretical
min	414 nm	431 nm	270 nm
max	482 nm	502 nm	270 nm
Z	1.92 um	1.93 um	1.3 um
Asymmetry	0.858		
Theta	-87.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 742.881 (brightness)

B = 126.923 (background)

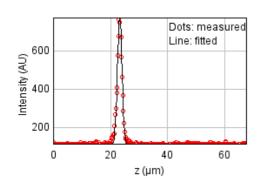
a = 0.783 px

b = -0.010 px

c = 0.577 px

xc = 6.210 pxyc = 7.518 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 31979.1447

Standard deviation: 10.20620

R^2: 0.98844 Parameters: a = 113.44483 b = 772.20535 c = 23.32147

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

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

Frame size: 12 pixels

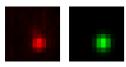
Coordinates: 81.8 um (x), -42.0 um (y), 23.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	495 nm	516 nm	270 nm
max	555 nm	578 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.893		
Theta	87.2°		

## XY profile & fitting parameters :

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



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



A = 393.668 (brightness)

B = 115.701 (background)

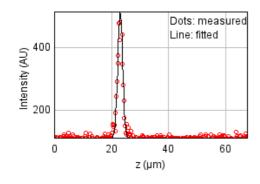
a = 0.547 px

b = 0.005 px

c = 0.436 px

xc = 6.884 pxyc = 7.453 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 33817.4620

Standard deviation: 10.49546

R^2: 0.96939 Parameters: a = 112.94275 b = 514.13353 c = 23.14224

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

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

Frame size: 12 pixels

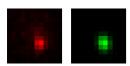
Coordinates: 119 um (x), -52.0 um (y), 23.0 um (z)

Corresponding bead: Not found

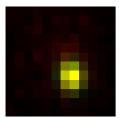
FWHM	Non corrected	Corrected	Theoretical
min	418 nm	435 nm	270 nm
max	540 nm	563 nm	270 nm
Z	2.1 um	2.11 um	1.3 um
Asymmetry	0.773		
Theta	-80.1°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 338.775 (brightness)

B = 121.207 (background)

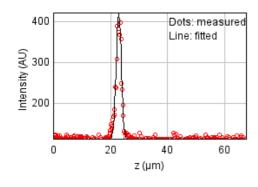
a = 0.759 px

b = -0.052 px

c = 0.469 px

xc = 6.668 pxyc = 7.068 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25855.5918

Standard deviation: 9.17715

R^2: 0.96234 Parameters: a = 112.35766 b = 423.03307

c = 22.98360

# Bead 1165 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -51.5 um (x), -59.1 um (y), 20.9 um (z)

Corresponding bead: Not found

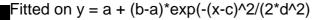
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	1.42 um	1.43 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

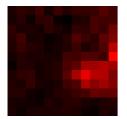
## XY profile & fitting parameters :

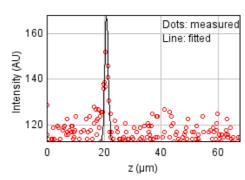
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 12371.7329

Standard deviation: 6.34813

R^2: 0.53661 Parameters: a = 112.81756 b = 167.99030

c = 20.94278d = 0.60321

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

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

Frame size: 12 pixels

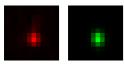
Coordinates: -48.2 um (x), -89.4 um (y), 23.0 um (z)

Corresponding bead: Not found

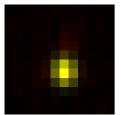
FWHM	Non corrected	Corrected	Theoretical
min	406 nm	422 nm	270 nm
max	508 nm	529 nm	270 nm
Z	2.05 um	2.06 um	1.3 um
Asymmetry	0.798		
Theta	-87.0°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 593.611 (brightness)

B = 121.926 (background)

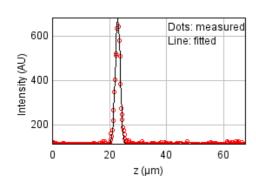
a = 0.815 px

b = -0.015 px

c = 0.521 px

xc = 6.039 pxyc = 6.775 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 23855.7967

Standard deviation: 8.81511

R^2: 0.98928 Parameters: a = 113.61034 b = 687.32358 c = 22.98152

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

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

Frame size: 12 pixels

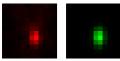
Coordinates: 36.7 um (x), 69.0 um (y), 23.5 um (z)

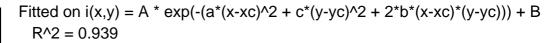
Corresponding bead: Not found

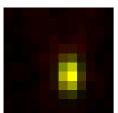
FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	611 nm	637 nm	270 nm
Z	2.09 um	2.1 um	1.3 um
Asymmetry	0.618		
Theta	-89.4°		

### XY profile & fitting parameters :

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







Parameters:

A = 357.802 (brightness)

B = 125.649 (background)

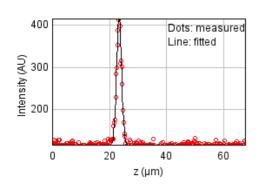
a = 0.939 px

b = -0.006 px

c = 0.359 px

xc = 6.697 pxyc = 6.850 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 17690.1120

Standard deviation: 7.59095

R^2: 0.97242 Parameters: a = 114.52401 b = 416.92733

c = 23.45421

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

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

Frame size: 12 pixels

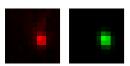
Coordinates: -18.4 um (x), 64.1 um (y), 23.5 um (z)

Corresponding bead : Not found

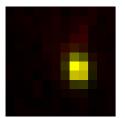
FWHM	Non corrected	Corrected	Theoretical
min	377 nm	393 nm	270 nm
max	511 nm	532 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.739		
Theta	-78.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 510.206 (brightness)

B = 124.697 (background)

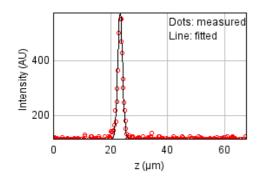
a = 0.925 px

b = -0.086 px

c = 0.532 px

xc = 7.406 pxyc = 6.295 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 31342.4060

Standard deviation: 10.10408

R^2: 0.97781 Parameters: a = 115.12395 b = 574.46340 c = 23.47286

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

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

Frame size: 12 pixels

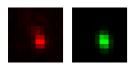
Coordinates: 85.2 um (x), 57.1 um (y), 22.9 um (z)

Corresponding bead: Not found

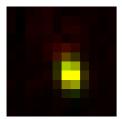
FWHM	Non corrected	Corrected	Theoretical
min	386 nm	402 nm	270 nm
max	555 nm	578 nm	270 nm
Z	2.25 um	2.26 um	1.3 um
Asymmetry	0.695		
Theta	-78.5°		

### XY profile & fitting parameters :

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



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



Parameters:

A = 409.913 (brightness)

B = 122.863 (background)

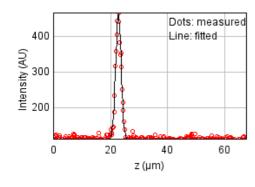
a = 0.882 px

b = -0.091 px

c = 0.454 px

xc = 6.483 pxyc = 6.848 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 20672.9676

Standard deviation: 8.20601

R^2: 0.97768 Parameters: a = 113.72919

b = 465.51224

c = 22.85724

# Bead 1170 (Rejected)

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

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

Frame size: 12 pixels

Coordinates: -2.23 um (x), 55.8 um (y), 20.1 um (z)

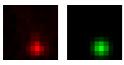
Corresponding bead: Not found

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

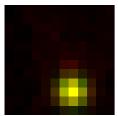
FWHM	Non corrected	Corrected	Theoretical
min	532 nm	555 nm	270 nm
max	548 nm	571 nm	270 nm
Z	3.37 um	3.38 um	1.3 um
Asymmetry	0.972		
Theta	-61.6°		

## XY profile & fitting parameters :

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



Fitted on  $i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.929$ 



Parameters:

A = 329.682 (brightness)

B = 124.583 (background)

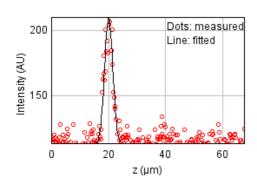
a = 0.467 px

b = -0.011 px

c = 0.453 px

xc = 6.875 pxyc = 8.907 px

### Z profile & fitting parameters:



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

Sum of residuals squared: 16600.6271

Standard deviation: 7.35348

R^2: 0.85803 Parameters:

a = 113.00002

b = 210.00447

c = 20.14644

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

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

Frame size: 12 pixels

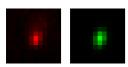
Coordinates: 29.7 um (x), 54.7 um (y), 23.2 um (z)

Corresponding bead: Not found

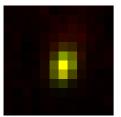
FWHM	Non corrected	Corrected	Theoretical
min	389 nm	405 nm	270 nm
max	580 nm	604 nm	270 nm
Z	2.3 um	2.31 um	1.3 um
Asymmetry	0.671		
Theta	75.5°		

### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.919$$



Parameters:

A = 420.946 (brightness)

B = 122.440 (background)

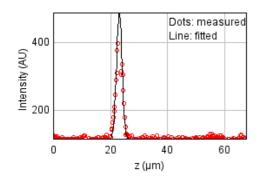
a = 0.856 px

b = 0.118 px

c = 0.429 px

xc = 6.079 pxyc = 6.045 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 46523.1570

Standard deviation: 12.31021

R^2: 0.95708 Parameters: a = 114.72009 b = 487.11509

c = 23.16738

## Bead 1172 (Rejected)

Date: Mon Oct 17 13:51:53 PDT 2022

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

Frame size: 12 pixels

Coordinates: -7.5 um (x), 25.7 um (y), 20.1 um (z)

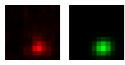
Corresponding bead: Not found

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

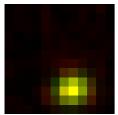
FWHM	Non corrected	Corrected	Theoretical
min	521 nm	543 nm	270 nm
max	604 nm	629 nm	270 nm
Z	3.63 um	3.65 um	1.3 um
Asymmetry	0.863		
Theta	16.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 304.228 (brightness) B = 123.712 (background)

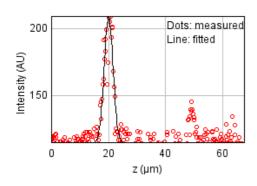
a = 0.378 px

b = 0.034 px

c = 0.484 px

xc = 6.889 pxyc = 8.817 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22210.7201

Standard deviation: 8.50574

R^2: 0.82197 Parameters:

a = 114.92438

b = 209.65877

c = 20.13474

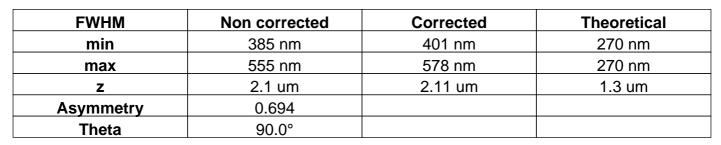
Date: Mon Oct 17 13:51:53 PDT 2022

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

Frame size: 12 pixels

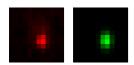
Coordinates: 124 um (x), 11.2 um (y), 23.3 um (z)

Corresponding bead: Not found



## XY profile & fitting parameters :

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



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



A = 382.053(brightness)

B = 119.098(background)

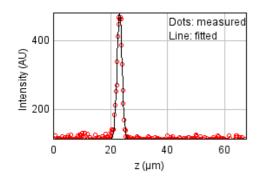
a = 0.904 px

b = 0.000 px

c = 0.435 px

xc = 6.705 pxyc = 6.733 px

# **Z** profile & fitting parameters:



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

Sum of residuals squared: 19978.7437

Standard deviation: 8.06705

R^2: 0.97909 Parameters: a = 112.81620

b = 481.98063

c = 23.26179

Date: Mon Oct 17 13:51:53 PDT 2022

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

Frame size: 12 pixels

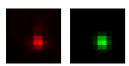
Coordinates: -30.9 um (x), 2.12 um (y), 23.5 um (z)

Corresponding bead: Not found

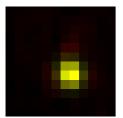
FWHM	Non corrected	Corrected	Theoretical
min	420 nm	437 nm	270 nm
max	482 nm	502 nm	270 nm
Z	2.04 um	2.05 um	1.3 um
Asymmetry	0.871		
Theta	-79.0°		

## XY profile & fitting parameters :

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



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



A = 689.272 (brightness)

B = 128.105 (background)

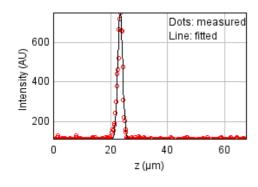
a = 0.755 px

b = -0.034 px

c = 0.584 px

xc = 6.565 pxyc = 6.854 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 58162.7579

Standard deviation: 13.76427

R^2: 0.97874 Parameters:

a = 114.14924

b = 747.71705

c = 23.49136

Date: Mon Oct 17 13:51:53 PDT 2022

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

Frame size: 12 pixels

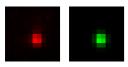
Coordinates: -73.6 um (x), -14.8 um (y), 23.5 um (z)

Corresponding bead: Not found

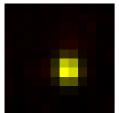
FWHM	Non corrected	Corrected	Theoretical
min	388 nm	404 nm	270 nm
max	454 nm	473 nm	270 nm
Z	2.19 um	2.2 um	1.3 um
Asymmetry	0.854		
Theta	-84.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 715.943 (brightness)

B = 123.813 (background)

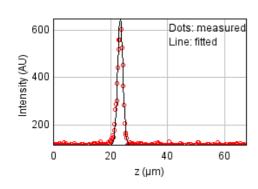
a = 0.888 px

b = -0.024 px

c = 0.652 px

xc = 6.409 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: 38030.7140

Standard deviation: 11.13007

R^2: 0.98185 Parameters:

a = 112.99863

b = 650.02749

c = 23.51826

# Bead 1176 (Rejected)

Date: Mon Oct 17 13:51:53 PDT 2022

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

Frame size: 12 pixels

Coordinates: -6.19 um (x), -25.6 um (y), 19.9 um (z)

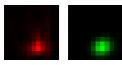
Corresponding bead: Not found

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

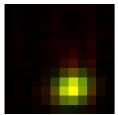
FWHM	Non corrected	Corrected	Theoretical
min	540 nm	562 nm	270 nm
max	641 nm	668 nm	270 nm
Z	3.26 um	3.27 um	1.3 um
Asymmetry	0.842		
Theta	23.7°		

# XY profile & fitting parameters :

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



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



Parameters:

A = 371.360 (brightness)

B = 123.884 (background)

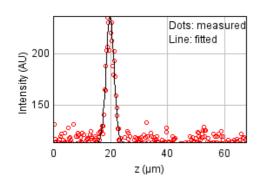
a = 0.348 px

b = 0.050 px

c = 0.439 px

xc = 6.881 pxyc = 8.684 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 15686.7658

Standard deviation: 7.14821

R^2: 0.90954 Parameters:

a = 113.30869

b = 236.80981

c = 19.94996

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

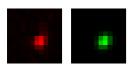
Coordinates: -87.4 um (x), -54.4 um (y), 23.3 um (z)

Corresponding bead: Not found

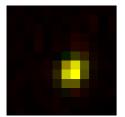
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	424 nm	270 nm
max	501 nm	521 nm	270 nm
Z	2.25 um	2.26 um	1.3 um
Asymmetry	0.814		
Theta	55.5°		

## XY profile & fitting parameters :

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



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



A = 469.894 (brightness)

B = 117.093 (background)

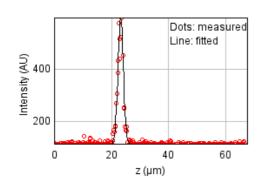
a = 0.721 px

b = 0.128 px

c = 0.623 px

xc = 6.726 pxyc = 6.677 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 104155.864

Standard deviation: 18.41928

R^2: 0.94299 Parameters: a = 113.18064 b = 598.14326

c = 23.30423

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

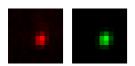
Coordinates: -148 um (x), -69.0 um (y), 22.7 um (z)

Corresponding bead: Not found

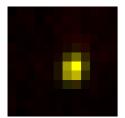
FWHM	Non corrected	Corrected	Theoretical
min	378 nm	394 nm	270 nm
max	484 nm	504 nm	270 nm
Z	2.41 um	2.42 um	1.3 um
Asymmetry	0.781		
Theta	72.9°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 457.331 (brightness)

B = 117.822 (background)

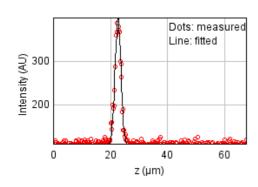
a = 0.907 px

b = 0.103 px

c = 0.604 px

xc = 6.728 pxyc = 6.261 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 19368.1498

Standard deviation: 7.94282

R^2: 0.97080 Parameters: a = 111.41793

b = 398.54115

c = 22.71938

# Bead 1179 (Rejected)

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

Coordinates: 49.7 um (x), 35.9 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	452 nm	471 nm	270 nm
max	586 nm	610 nm	270 nm
Z	4.28 um	4.29 um	1.3 um
Asymmetry	0.772		
Theta	45.8°		

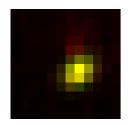
# XY profile & fitting parameters :

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





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



Parameters:

A = 544.643 (brightness)

B = 126.500 (background)

a = 0.528 px

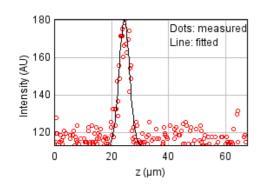
b = 0.133 px

c = 0.520 px

xc = 6.931 px

# yc = 6.322 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 15013.5730

Standard deviation: 6.99315

R^2: 0.80163 Parameters:

a = 113.01175

b = 180.71145

c = 24.57705

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

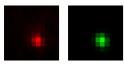
Coordinates: -45.4 um (x), 33.9 um (y), 24.1 um (z)

Corresponding bead: Not found

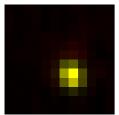
FWHM	Non corrected	Corrected	Theoretical
min	384 nm	400 nm	270 nm
max	462 nm	481 nm	270 nm
Z	1.96 um	1.97 um	1.3 um
Asymmetry	0.831		
Theta	-67.1°		

## XY profile & fitting parameters :

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



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



A = 726.050 (brightness)

B = 127.479 (background)

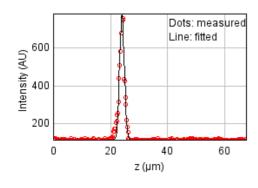
a = 0.868 px

b = -0.101 px

c = 0.671 px

xc = 6.808 pxyc = 7.224 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 68717.7883

Standard deviation: 14.96116

R^2: 0.97652 Parameters: a = 115.14247 b = 782.84807

c = 24.11579

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

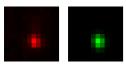
Coordinates: -103 um (x), 11.1 um (y), 23.8 um (z)

Corresponding bead: Not found

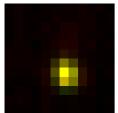
FWHM	Non corrected	Corrected	Theoretical
min	392 nm	409 nm	270 nm
max	490 nm	510 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.801		
Theta	-78.7°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 493.425 (brightness)

B = 118.559 (background)

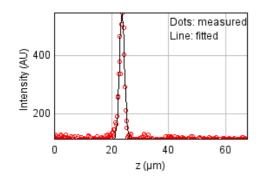
a = 0.860 px

b = -0.060 px

c = 0.572 px

xc = 6.203 pxyc = 7.186 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 63513.1626

Standard deviation: 14.38344

R^2: 0.95289 Parameters: a = 113.64260

b = 544.45287

c = 23.77282

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

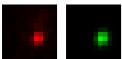
Coordinates: -78.9 um (x), 9.82 um (y), 23.4 um (z)

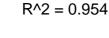
Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	411 nm	428 nm	270 nm
max	498 nm	518 nm	270 nm
Z	2.13 um	2.14 um	1.3 um
Asymmetry	0.826		
Theta	73.0°		

## XY profile & fitting parameters :

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







Parameters:

A = 529.878 (brightness)

B = 121.446 (background)

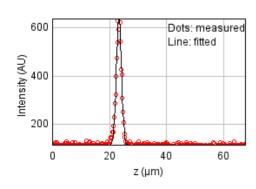
a = 0.773 px

b = 0.070 px

c = 0.564 px

xc = 7.386 pxyc = 6.874 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 25140.8531

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

Standard deviation: 9.04942

R^2: 0.98701 Parameters: a = 113.98181 b = 638.14217 c = 23.39927

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

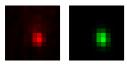
Coordinates: 131 um (x), -14.1 um (y), 23.0 um (z)

Corresponding bead: Not found

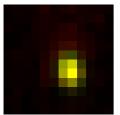
FWHM	Non corrected	Corrected	Theoretical
min	402 nm	419 nm	270 nm
max	562 nm	585 nm	270 nm
Z	2.28 um	2.29 um	1.3 um
Asymmetry	0.716		
Theta	-80.7°		

## XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.919$$



Parameters:

A = 285.638 (brightness)

B = 115.421 (background)

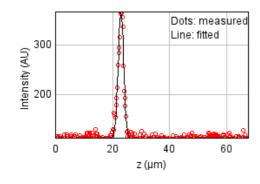
a = 0.819 px

b = -0.064 px

c = 0.436 px

xc = 6.735 pxyc = 6.699 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 17624.1182

Standard deviation: 7.57678

R^2: 0.96459 Parameters:

a = 111.85963

b = 366.63467

c = 23.04704

Date: Mon Oct 17 13:51:54 PDT 2022

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

Frame size: 12 pixels

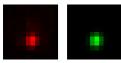
Coordinates: -38.5 um (x), -31.9 um (y), 23.6 um (z)

Corresponding bead: Not found

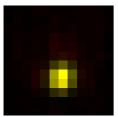
FWHM	Non corrected	Corrected	Theoretical
min	421 nm	439 nm	270 nm
max	475 nm	494 nm	270 nm
Z	2.06 um	2.07 um	1.3 um
Asymmetry	0.888		
Theta	77.3°		

## XY profile & fitting parameters :

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



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



A = 662.025 (brightness)

B = 123.531 (background)

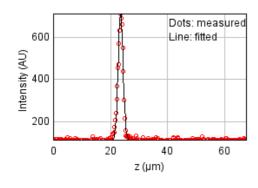
a = 0.748 px

b = 0.034 px

c = 0.603 px

xc = 5.798 pxyc = 7.385 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 38303.9750

Standard deviation: 11.16999

R^2: 0.98444 Parameters: a = 114.13070

b = 714.56902

c = 23.64287

Date: Mon Oct 17 13:51:55 PDT 2022

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

Frame size: 12 pixels

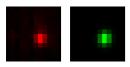
Coordinates: -103 um (x), -40.0 um (y), 23.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	415 nm	432 nm	270 nm
max	491 nm	512 nm	270 nm
Z	2.28 um	2.29 um	1.3 um
Asymmetry	0.844		
Theta	81.3°		

## XY profile & fitting parameters :

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



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



A = 442.322 (brightness)

B = 117.695 (background)

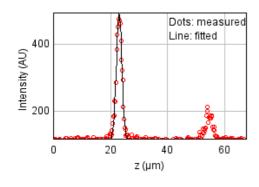
a = 0.775 px

b = 0.034 px

c = 0.561 px

xc = 7.067 pxyc = 6.491 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 82447.9051

Standard deviation: 16.38780

R^2: 0.92706 Parameters: a = 116.85039

b = 492.77628

c = 23.10349

Date: Mon Oct 17 13:51:55 PDT 2022

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

Frame size: 12 pixels

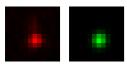
Coordinates: 58.6 um (x), -54.4 um (y), 23.2 um (z)

Corresponding bead: Not found

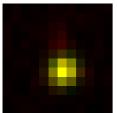
FWHM	Non corrected	Corrected	Theoretical
min	481 nm	501 nm	270 nm
max	521 nm	543 nm	270 nm
Z	2.12 um	2.13 um	1.3 um
Asymmetry	0.924		
Theta	70.2°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 402.459 (brightness)

B = 120.690 (background)

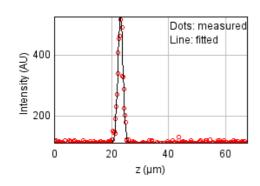
a = 0.570 px

b = 0.027 px

c = 0.504 px

xc = 6.149 pxyc = 6.850 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 22280.2953

Standard deviation: 8.51905

R^2: 0.98166 Parameters: a = 112.79627

b = 528.22749

c = 23.21019

# Bead 1187 (Rejected)

Date: Mon Oct 17 13:51:55 PDT 2022

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

Frame size: 12 pixels

Coordinates: -122 um (x), -64.6 um (y), 19.9 um (z)

Corresponding bead: Not found

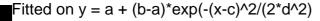
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	3.97 um	3.98 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

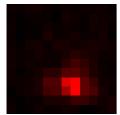
# XY profile & fitting parameters :

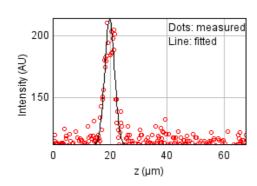
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





Fitted on  $y = a + (b-a)^* \exp(-(x-c)^2/(2^*d^2))$ Sum of residuals squared: 17077.0978

Standard deviation: 7.45827

R^2: 0.88365 Parameters: a = 111.92437 b = 214.27825 c = 19.94054

Date: Mon Oct 17 13:51:55 PDT 2022

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

Frame size: 12 pixels

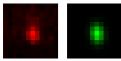
Coordinates: -83.8 um (x), 71.4 um (y), 23.1 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	463 nm	482 nm	270 nm
max	681 nm	709 nm	270 nm
Z	2.61 um	2.62 um	1.3 um
Asymmetry	0.68		
Theta	-83.8°		

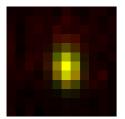
#### XY profile & fitting parameters :

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





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



Parameters:

A = 241.497 (brightness)

B = 119.201(background)

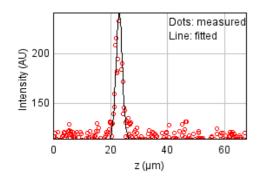
a = 0.622 px

b = -0.036 px

c = 0.293 px

xc = 6.077 pxyc = 6.109 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 21473.4836

Standard deviation: 8.36338

R^2: 0.86492 Parameters:

a = 113.70586

b = 241.48199

c = 23.13633

Date: Mon Oct 17 13:51:55 PDT 2022

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

Frame size: 12 pixels

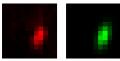
Coordinates: 14.2 um (x), 65.5 um (y), 23.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	380 nm	396 nm	270 nm
max	782 nm	814 nm	270 nm
Z	1.88 um	1.88 um	1.3 um
Asymmetry	0.486		
Theta	73.6°		

## XY profile & fitting parameters :

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





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



Parameters:

A = 386.345(brightness)

B = 121.551(background)

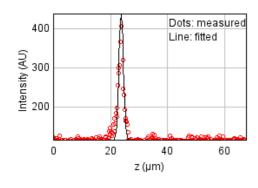
a = 0.874 px

b = 0.192 px

c = 0.276 px

xc = 7.653 pxyc = 6.614 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 65965.7375

Standard deviation: 14.65852

R^2: 0.90736 Parameters:

a = 115.87432

b = 439.88816

c = 23.84476

Date: Mon Oct 17 13:51:55 PDT 2022

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

Frame size: 12 pixels

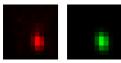
Coordinates: 31.9 um (x), -6.4 um (y), 23.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	392 nm	409 nm	270 nm
max	588 nm	612 nm	270 nm
Z	2.24 um	2.25 um	1.3 um
Asymmetry	0.667		
Theta	-81.3°		

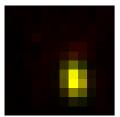
## XY profile & fitting parameters :

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





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



Parameters:

A = 678.828 (brightness)

B = 125.438 (background)

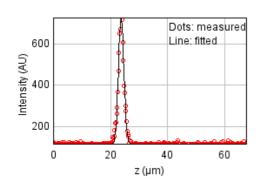
a = 0.861 px

b = -0.072 px

c = 0.400 px

xc = 7.162 pxyc = 7.600 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 30770.7435

Standard deviation: 10.01152

R^2: 0.98890 Parameters: a = 114.20073

b = 727.66227

c = 23.84118

Date: Mon Oct 17 13:51:56 PDT 2022

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

Frame size: 12 pixels

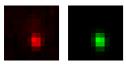
Coordinates: 144 um (x), -41.3 um (y), 23.8 um (z)

Corresponding bead: Not found

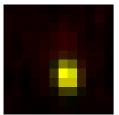
FWHM	Non corrected	Corrected	Theoretical
min	384 nm	400 nm	270 nm
max	523 nm	545 nm	270 nm
Z	2.36 um	2.37 um	1.3 um
Asymmetry	0.734		
Theta	-81.3°		

#### XY profile & fitting parameters :

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



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



A = 441.799 (brightness)

B = 123.381 (background)

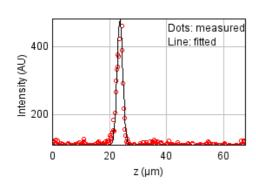
a = 0.900 px

b = -0.063 px

c = 0.500 px

xc = 6.438 pxyc = 7.283 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 45155.8164

Standard deviation: 12.12796

R^2: 0.95858 Parameters: a = 110.84676 b = 480.36466

c = 23.75617

Date: Mon Oct 17 13:51:56 PDT 2022

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

Frame size: 12 pixels

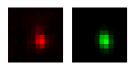
Coordinates: 101 um (x), -45.4 um (y), 23.9 um (z)

Corresponding bead: Not found

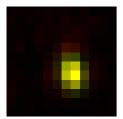
FWHM	Non corrected	Corrected	Theoretical
min	407 nm	424 nm	270 nm
max	579 nm	603 nm	270 nm
Z	2.11 um	2.12 um	1.3 um
Asymmetry	0.703		
Theta	-79.9°		

#### XY profile & fitting parameters :

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



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



Parameters:

A = 537.293 (brightness)

B = 122.828 (background)

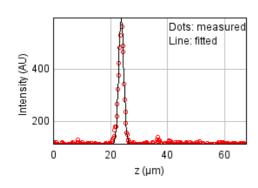
a = 0.796 px

b = -0.071 px

c = 0.413 px

xc = 6.664 pxyc = 6.771 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26051.7645

Standard deviation: 9.21190

R^2: 0.98406 Parameters:

a = 113.32894

b = 596.76299

c = 23.85236

Date: Mon Oct 17 13:51:56 PDT 2022

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

Frame size: 12 pixels

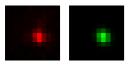
Coordinates: -70.0 um (x), -88.4 um (y), 23.8 um (z)

Corresponding bead: Not found

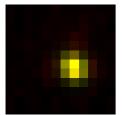
FWHM	Non corrected	Corrected	Theoretical
min	426 nm	444 nm	270 nm
max	494 nm	514 nm	270 nm
Z	2.08 um	2.09 um	1.3 um
Asymmetry	0.862		
Theta	-62.6°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 559.673 (brightness)

B = 123.309 (background)

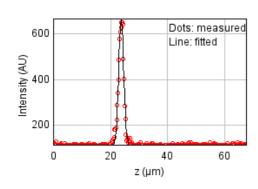
a = 0.699 px

b = -0.077 px

c = 0.590 px

xc = 6.938 pxyc = 6.364 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 34385.9650

Standard deviation: 10.58331

R^2: 0.98382 Parameters: a = 112.70091 b = 667.69244 c = 23.84830

Date: Mon Oct 17 13:51:56 PDT 2022

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

Frame size: 12 pixels

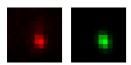
Coordinates: -71.1 um (x), 72.7 um (y), 23.9 um (z)

Corresponding bead: Not found

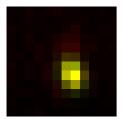
FWHM	Non corrected	Corrected	Theoretical
min	390 nm	406 nm	270 nm
max	545 nm	567 nm	270 nm
Z	1.99 um	1.99 um	1.3 um
Asymmetry	0.716		
Theta	-73.0°		

## 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 = 430.026 (brightness)

B = 123.503 (background)

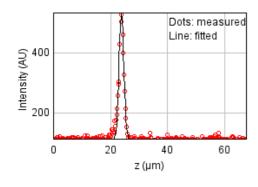
a = 0.845 px

b = -0.120 px

c = 0.489 px

xc = 6.652 pxyc = 6.874 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 30099.6228

Standard deviation: 9.90174

R^2: 0.97437 Parameters:

a = 114.78991

b = 534.47024

c = 23.92346

Date: Mon Oct 17 13:51:56 PDT 2022

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

Frame size: 12 pixels

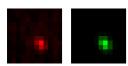
Coordinates: -148 um (x), 70.7 um (y), 23.4 um (z)

Corresponding bead: Not found

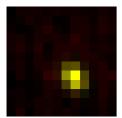
FWHM	Non corrected	Corrected	Theoretical
min	347 nm	361 nm	270 nm
max	472 nm	492 nm	270 nm
Z	2.13 um	2.14 um	1.3 um
Asymmetry	0.734		
Theta	-57.2°		

#### XY profile & fitting parameters :

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



Fitted on 
$$i(x,y) = A * exp(-(a*(x-xc)^2 + c*(y-yc)^2 + 2*b*(x-xc)*(y-yc))) + B R^2 = 0.912$$



Parameters:

A = 228.506 (brightness)

B = 115.076 (background)

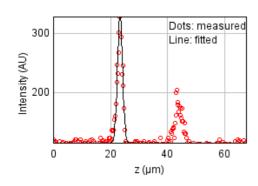
a = 0.967 px

b = -0.234 px

c = 0.753 px

xc = 6.847 pxyc = 7.223 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 76029.3267

Standard deviation: 15.73698

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

Date: Mon Oct 17 13:51:56 PDT 2022

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

Frame size: 12 pixels

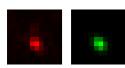
Coordinates: -61.7 um (x), 48.9 um (y), 23.6 um (z)

Corresponding bead: Not found

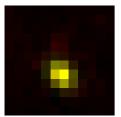
FWHM	Non corrected	Corrected	Theoretical
min	387 nm	403 nm	270 nm
max	518 nm	539 nm	270 nm
Z	2.0 um	2.01 um	1.3 um
Asymmetry	0.748		
Theta	-50.5°		

## XY profile & fitting parameters :

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



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



A = 416.007 (brightness)

B = 121.811(background)

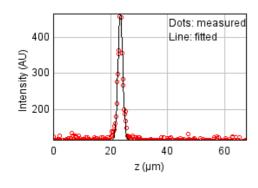
a = 0.735 px

b = -0.193 px

c = 0.660 px

xc = 5.693 pxyc = 7.036 px

## Z profile & fitting parameters:



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

Sum of residuals squared: 25069.9519

Standard deviation: 9.03665

R^2: 0.96978 Parameters:

a = 114.66077

b = 465.31043

c = 23.56468

# Bead 1197 (Rejected)

Date: Mon Oct 17 13:51:56 PDT 2022

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

Frame size: 12 pixels

Coordinates: -33.0 um (x), 47.3 um (y), 21.1 um (z)

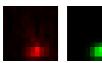
Corresponding bead: Not found

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

FWHM	Non corrected	Corrected	Theoretical
min	475 nm	495 nm	270 nm
max	639 nm	666 nm	270 nm
Z	3.47 um	3.48 um	1.3 um
Asymmetry	0.743		
Theta	15.4°		

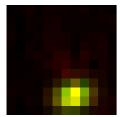
# XY profile & fitting parameters :

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





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



Parameters:

A = 328.495 (brightness)

B = 122.973 (background)

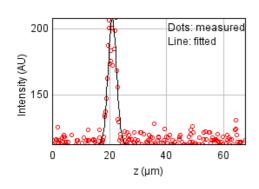
a = 0.347 px

b = 0.068 px

c = 0.576 px

xc = 6.799 pxyc = 9.423 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 16809.2407

Standard deviation: 7.39954

R^2: 0.85550 Parameters:

a = 112.57464

b = 207.88072

c = 21.08157

# Bead 1198 (Rejected)

Date: Mon Oct 17 13:51:57 PDT 2022

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

Frame size: 12 pixels

Coordinates: 119 um (x), 38.4 um (y), 21.7 um (z)

Corresponding bead: Not found

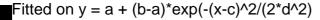
Reason of rejection: R or C parameter off limits.

FWHM	Non corrected	Corrected	Theoretical
min	0	0	270 nm
max	0	0	270 nm
Z	2.84 um	2.85 um	1.3 um
Asymmetry	0.0		
Theta	0.0°		

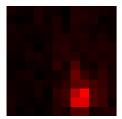
## XY profile & fitting parameters :

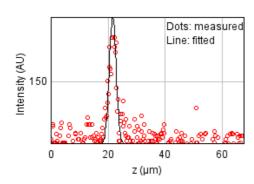
(red: the original data, green: the fit, yellow: the two merged)





# Z profile & fitting parameters:





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

Sum of residuals squared: 15261.7809

Standard deviation: 7.05072

R^2: 0.77207 Parameters:

a = 113.27742

b = 188.69423

c = 21.71416

Date: Mon Oct 17 13:51:57 PDT 2022

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

Frame size: 12 pixels

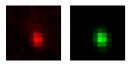
Coordinates: 122 um (x), 31.0 um (y), 23.6 um (z)

Corresponding bead : Not found

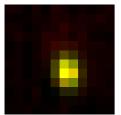
FWHM	Non corrected	Corrected	Theoretical
min	422 nm	439 nm	270 nm
max	575 nm	599 nm	270 nm
Z	2.3 um	2.31 um	1.3 um
Asymmetry	0.733		
Theta	-79.8°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 299.208 (brightness)

B = 118.853 (background)

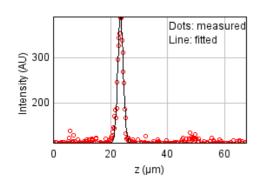
a = 0.743 px

b = -0.061 px

c = 0.416 px

xc = 6.349 pxyc = 6.816 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 18914.0420

Standard deviation: 7.84916

R^2: 0.96843 Parameters: a = 112.29480

b = 390.83850

c = 23.60528

Date: Mon Oct 17 13:51:57 PDT 2022

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

Frame size: 12 pixels

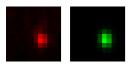
Coordinates: -6.54 um (x), 24.4 um (y), 23.8 um (z)

Corresponding bead: Not found

FWHM	Non corrected	Corrected	Theoretical
min	404 nm	420 nm	270 nm
max	544 nm	567 nm	270 nm
Z	2.23 um	2.24 um	1.3 um
Asymmetry	0.741		
Theta	-84.3°		

## XY profile & fitting parameters :

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



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



Parameters:

A = 472.932 (brightness)

B = 121.676 (background)

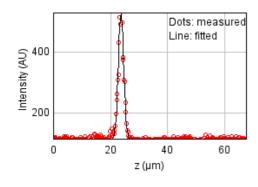
a = 0.820 px

b = -0.037 px

c = 0.456 px

xc = 7.253 pxyc = 6.718 px

# Z profile & fitting parameters:



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

Sum of residuals squared: 26822.1795

Standard deviation: 9.34712

R^2: 0.97878 Parameters: a = 114.68679

b = 527.59462

c = 23.77739