

# 63X\_1\_4\_525 - Multiple Bead Image Summary

## Microscope info:

| Image               |                            | Image5                  |          |            |                       |                      |                      |  |  |
|---------------------|----------------------------|-------------------------|----------|------------|-----------------------|----------------------|----------------------|--|--|
| image's<br>creation | date                       | 2024-10-17 10:22:19     |          |            |                       |                      |                      |  |  |
|                     | method<br>used             | from file creation date |          |            |                       |                      |                      |  |  |
| Actual image depth  |                            | 16                      |          |            |                       |                      |                      |  |  |
| Microscope type     |                            | WideField               |          |            |                       |                      |                      |  |  |
| Objective           | NA                         | 1.4                     |          |            |                       |                      |                      |  |  |
|                     | im.<br>refractive<br>index | 1.518                   |          |            |                       |                      |                      |  |  |
| Channel(s)          |                            | Wavelengths             |          |            | sampling (X,Y,Z)      |                      |                      |  |  |
|                     |                            | Ex. (nm)                | Em. (nm) | Saturation | Nyquist<br>(µm)       | Found<br>(µm)        | Nyquist/fo und ratio |  |  |
| Channel 0           |                            |                         | 525.0    | none       | 0.094x0.09<br>4x0.282 | 0.063x0.06<br>3x0.06 | 0.7, 0.7,<br>0.2     |  |  |

## Warnings:

(No saturated pixels detected).

(All channels sampled following Shannon-Nyquist criterion).

(A subresolution bead is used for all channels).

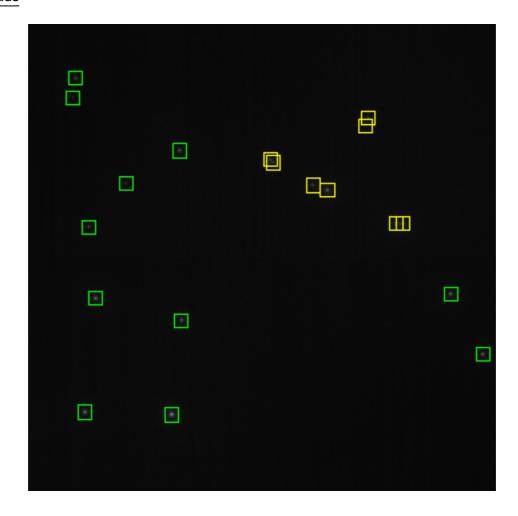
### Analysis parameters

|                                 | Tool   | Batch PSF Profiler  |  |  |  |
|---------------------------------|--|---|--|--|--|
| Tool &<br>Operator              | Versions   | MetroloJ_QC v1.3.1.1, ImageJ v2.14.0/1.54f, Java v1.8.0_322, OS Mac OS X    |  |  |  |
| ·                               | Operator & date  | SO, October 25, 2024 2:35 PM  |  |  |  |
|                                 | result folder  | /Users/oggsc/Documents/OM/ImageAnalysis/QC/Elyra/PSFs/20241014/63X_1_4/525/ |  |  |  |
| data                            | Type of saved data                                     | .pdf, .jpg, .xls  |  |  |  |
|                                 | Input data bit depth                                   | 16  |  |  |  |
| Dimension order                 |  | XY-(C)Z   |  |  |  |
| Discard s                       | aturated samples                                       | false   |  |  |  |
|                                 | Bead detection threshold                               | Legacy  |  |  |  |
|                                 | Center detection method                                | Legacy Maximum Intensity  |  |  |  |
| Beads                           | Discard bead if more than one particle are thresholded | true  |  |  |  |
|                                 | Background annulus thickness in µm                     | 0.5   |  |  |  |
|                                 | Background annulus<br>distance to bead edges<br>in µm  | 0.5   |  |  |  |
|                                 | Multiple beads in image                                | true  |  |  |  |
|                                 | Bead identification method                             | Using Find Maxima (prominence of 1000.0)                                    |  |  |  |
|                                 | Bead size (µm)   | 0.1   |  |  |  |
|                                 | Bead crop Factor                                       | 5.0   |  |  |  |
|                                 | Cropped ROI size in µm                                 | 2.31x2.31 (using bead size & background annulus parameters)                 |  |  |  |
| Square Root PSF Image displayed |  | true  |  |  |  |
|                                 | Applied in this report                                 | true  |  |  |  |
| Tolerance                       | X & Y FWHM ratios valid if below                       | 1.5   |  |  |  |
|                                 | Z FWHM ratio valid if below                            | 2.0   |  |  |  |
| Measurement                     | Outliers   | true (using IQR)  |  |  |  |
| rejected                        | R2 ratio below   | 0.95  |  |  |  |

## Analysis log

| image name | creation<br>date       | sampling density | identified raw beads | valid<br>beads | saturation | status               |
|------------|------------------------|------------------|----------------------|----------------|------------|----------------------|
|            | 2024-10-17<br>10:22:19 | correct          | 19                   | 11             | none       | valid beads<br>found |
|            | bead0 none analys      |                  |                      |                |            |                      |
|            | bead1                  |                  |                      |                | none       | analysed             |
|            | bead2                  |                  |                      |                | none       | analysed             |
|            |                        |                  |                      | bead3          | none       | analysed             |
| Image 5    |                        |                  |                      | bead4          | none       | analysed             |
|            |                        |                  |                      | bead5          | none       | analysed             |
|            |                        |                  |                      | bead6          | none       | analysed             |
|            |                        |                  |                      | bead7          | none       | analysed             |
|            |                        |                  |                      | bead8          | none       | analysed             |
|            |                        |                  |                      | bead9          | none       | analysed             |
|            |                        |                  |                      | bead10         | none       | analysed             |

#### Identified beads



green: valid bead, yellow: too close to another bead, magenta: too close to stack's top or bottom, cyan: too close to the image's edges.