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Version 0.55
(Wed Jun 05 00:37:50 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:37:50 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL00_Angle0.tif
(Wed Jun 05 00:37:50 CEST 2013): Opening Image
(Wed Jun 05 00:37:52 CEST 2013): Computing Integral Image
(Wed Jun 05 00:37:53 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:37:53 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:37:54 CEST 2013): Extracting peaks
(Wed Jun 05 00:37:57 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1275 in view spim_TL00_Angle0.tif
(Wed Jun 05 00:37:57 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL00_Angle1.tif
(Wed Jun 05 00:37:57 CEST 2013): Opening Image
(Wed Jun 05 00:37:59 CEST 2013): Computing Integral Image
(Wed Jun 05 00:37:59 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:37:59 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:01 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:04 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1364 in view spim_TL00_Angle1.tif
(Wed Jun 05 00:38:04 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL00_Angle2.tif
(Wed Jun 05 00:38:04 CEST 2013): Opening Image
(Wed Jun 05 00:38:06 CEST 2013): Computing Integral Image
(Wed Jun 05 00:38:06 CEST 2013): min intensity = 192.0, max intensity = 4095.0
(Wed Jun 05 00:38:06 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:08 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:11 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1026 in view spim_TL00_Angle2.tif
(Wed Jun 05 00:38:11 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL00_Angle3.tif
(Wed Jun 05 00:38:11 CEST 2013): Opening Image
(Wed Jun 05 00:38:13 CEST 2013): Computing Integral Image
(Wed Jun 05 00:38:18 CEST 2013): min intensity = 192.0, max intensity = 4095.0
(Wed Jun 05 00:38:18 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:20 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:22 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1110 in view spim_TL00_Angle3.tif
(Wed Jun 05 00:38:22 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL00_Angle4.tif
(Wed Jun 05 00:38:22 CEST 2013): Opening Image
(Wed Jun 05 00:38:25 CEST 2013): Computing Integral Image
(Wed Jun 05 00:38:26 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:38:26 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:28 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:31 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1201 in view spim_TL00_Angle4.tif
Opening files took: 10 sec (26 %)
Computation took: 30 sec (74 %)
(Wed Jun 05 00:38:31 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:38:31 CEST 2013): Starting Registration
spim_TL00_Angle2.tif<->spim_TL00_Angle3.tif: Remaining inliers after RANSAC: 27 of 27 (100%)
with average error 0.6691474158454825
spim_TL00_Angle0.tif<->spim_TL00_Angle2.tif: Remaining inliers after RANSAC: 35 of 38 (92%)
with average error 1.016280539546694
spim_TL00_Angle2.tif<->spim_TL00_Angle4.tif: Remaining inliers after RANSAC: 37 of 38 (97%)
with average error 0.4437933805826548
spim_TL00_Angle1.tif<->spim_TL00_Angle2.tif: Remaining inliers after RANSAC: 37 of 37 (100%)
with average error 0.6356905136962194
spim_TL00_Angle1.tif<->spim_TL00_Angle4.tif: Remaining inliers after RANSAC: 32 of 35 (91%)
with average error 0.46237540687434375
spim_TL00_Angle0.tif<->spim_TL00_Angle4.tif: Remaining inliers after RANSAC: 42 of 44 (95%)
with average error 0.8402975366583892
spim_TL00_Angle0.tif<->spim_TL00_Angle3.tif: Remaining inliers after RANSAC: 51 of 55 (93%)
with average error 0.8029027832489387
spim_TL00_Angle1.tif<->spim_TL00_Angle3.tif: Remaining inliers after RANSAC: 52 of 55 (95%)
with average error 0.607263472647621
spim_TL00_Angle0.tif<->spim_TL00_Angle1.tif: Remaining inliers after RANSAC: 40 of 42 (95%)
with average error 1.0302403014153243
spim_TL00_Angle3.tif<->spim_TL00_Angle4.tif: Remaining inliers after RANSAC: 42 of 43 (98%)
with average error 0.8881665195027986
spim_TL00_Angle0.tif (id = 0) has 168 correspondences in 4 other views.
spim_TL00_Angle1.tif (id = 1) has 161 correspondences in 4 other views.
spim_TL00_Angle2.tif (id = 2) has 136 correspondences in 4 other views.
spim_TL00_Angle3.tif (id = 3) has 172 correspondences in 4 other views.
spim_TL00_Angle4.tif (id = 4) has 153 correspondences in 4 other views.
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The total number of detections was: 5976
The total number of correspondence candidates was: 414
The total number of true correspondences is: 395
Fixing tile spim_TL00_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 251 iterations:
  average displacement: 1.120px
  minimal displacement: 1.054px
  maximal displacement: 1.228px
Optimizer Matrices
spim_TL00_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL00_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.4034757, -0.017118536, -0.9500036, 551.3254, -0.03021285, 0.99964863,
-0.032916248, -84.31384, 0.91019815, 0.014426814, 0.32620275, -441.7644)
Scaling: (1.0032223733337209, 0.9528624631403432, 1.0428620672562883)
spim_TL00_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.7432042, -0.042245694, -0.65209407, 1240.2931, -0.048540406, 0.9994622,
-0.0070295334, -116.962135, 0.624204, 0.001162082, -0.80433005, -115.54785)
Scaling: (0.9689587622546676, 1.0394218789751286, 0.9989964620562454)
spim_TL00_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.8663674, -0.036609128, 0.56689316, 1254.7957, -0.030600458, 0.99995005,
0.015654206, -142.33813, -0.5187334, -0.025938494, -0.8353426, 743.533)
Scaling: (1.0384289694682136, 0.9757000778390861, 1.0057887943958521)
spim_TL00_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5051509, -0.0043625347, 0.8636937, 11.992264, 0.0020857565, 1.0004001,
0.0012226701, -212.30762, -0.82413423, -0.023726918, 0.55951655, 786.80237)
Scaling: (0.9623136572664236, 1.034099146529437, 0.9996898485956899)
(Wed Jun 05 00:38:31 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:38:31 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:38:31 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL01_Angle0.tif
(Wed Jun 05 00:38:31 CEST 2013): Opening Image
(Wed Jun 05 00:38:33 CEST 2013): Computing Integral Image
(Wed Jun 05 00:38:34 CEST 2013): min intensity = 190.0, max intensity = 4095.0
(Wed Jun 05 00:38:34 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:35 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:38 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1243 in view spim_TL01_Angle0.tif
(Wed Jun 05 00:38:38 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL01_Angle1.tif
(Wed Jun 05 00:38:38 CEST 2013): Opening Image
(Wed Jun 05 00:38:39 CEST 2013): Computing Integral Image
(Wed Jun 05 00:38:40 CEST 2013): min intensity = 192.0, max intensity = 4095.0
(Wed Jun 05 00:38:40 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:41 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:44 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1467 in view spim_TL01_Angle1.tif
(Wed Jun 05 00:38:44 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL01_Angle2.tif
(Wed Jun 05 00:38:44 CEST 2013): Opening Image
(Wed Jun 05 00:38:45 CEST 2013): Computing Integral Image
(Wed Jun 05 00:38:48 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:38:48 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:50 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:52 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 970 in view spim_TL01_Angle2.tif
(Wed Jun 05 00:38:52 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL01_Angle3.tif
(Wed Jun 05 00:38:52 CEST 2013): Opening Image
(Wed Jun 05 00:38:54 CEST 2013): Computing Integral Image
(Wed Jun 05 00:38:54 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:38:54 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:38:56 CEST 2013): Extracting peaks
(Wed Jun 05 00:38:59 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1125 in view spim_TL01_Angle3.tif
(Wed Jun 05 00:38:59 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL01_Angle4.tif
(Wed Jun 05 00:38:59 CEST 2013): Opening Image
(Wed Jun 05 00:39:05 CEST 2013): Computing Integral Image
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(Wed Jun 05 00:39:06 CEST 2013): min intensity = 192.0, max intensity = 4095.0
(Wed Jun 05 00:39:06 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:39:07 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:11 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1172 in view spim_TL01_Angle4.tif
Opening files took: 12 sec (32 %)
Computation took: 26 sec (68 %)
(Wed Jun 05 00:39:11 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:39:11 CEST 2013): Starting Registration
spim_TL01_Angle0.tif<->spim_TL01_Angle4.tif: Remaining inliers after RANSAC: 50 of 51 (98%)
with average error 1.220623674094677
spim_TL01_Angle1.tif<->spim_TL01_Angle3.tif: Remaining inliers after RANSAC: 64 of 71 (90%)
with average error 0.5970997046679257
spim_TL01_Angle0.tif<->spim_TL01_Angle2.tif: Remaining inliers after RANSAC: 28 of 32 (88%)
with average error 0.5160948213722024
spim_TL01_Angle2.tif<->spim_TL01_Angle3.tif: Remaining inliers after RANSAC: 38 of 40 (95%)
with average error 0.7648122758653603
spim_TL01_Angle1.tif<->spim_TL01_Angle2.tif: Remaining inliers after RANSAC: 29 of 33 (88%)
with average error 0.6915750051366871
spim_TL01_Angle2.tif<->spim_TL01_Angle4.tif: Remaining inliers after RANSAC: 49 of 51 (96%)
with average error 0.500929526832639
spim_TL01_Angle0.tif<->spim_TL01_Angle3.tif: Remaining inliers after RANSAC: 56 of 59 (95%)
with average error 1.104767129490418
spim_TL01_Angle1.tif<->spim_TL01_Angle4.tif: Remaining inliers after RANSAC: 48 of 52 (92%)
with average error 0.5468472352561854
spim_TL01_Angle0.tif<->spim_TL01_Angle1.tif: Remaining inliers after RANSAC: 54 of 54 (100%)
with average error 1.286801319707323
spim_TL01_Angle3.tif<->spim_TL01_Angle4.tif: Remaining inliers after RANSAC: 50 of 51 (98%)
with average error 0.7203965844213962
spim_TL01_Angle0.tif (id = 0) has 188 correspondences in 4 other views.
spim_TL01_Angle1.tif (id = 1) has 195 correspondences in 4 other views.
spim_TL01_Angle2.tif (id = 2) has 144 correspondences in 4 other views.
spim_TL01_Angle3.tif (id = 3) has 208 correspondences in 4 other views.
spim_TL01_Angle4.tif (id = 4) has 197 correspondences in 4 other views.
The total number of detections was: 5977
The total number of correspondence candidates was: 494
The total number of true correspondences is: 466
Fixing tile spim_TL01_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 253 iterations:
  average displacement: 1.210px
  minimal displacement: 1.113px
  maximal displacement: 1.432px
Optimizer Matrices
spim_TL01_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL01_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.40375853, -0.01768966, -0.9508635, 553.6925, -0.035568453, 0.9982312,
-0.034837484, -81.98084, 0.91156113, 0.015170721, 0.3253782, -440.9561)
Scaling: (1.0029943187121435, 0.9522120033150894, 1.0443940792237874)
spim_TL01_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.74212414, -0.04166367, -0.652339, 1241.7681, -0.053271897, 0.99853075,
0.006309271, -117.27597, 0.6258612, 0.0015783533, -0.81878126, -107.28902)
Scaling: (0.9674126969665107, 1.0547397708102118, 0.9958492871319119)
spim_TL01_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.8664322, -0.036135186, 0.5556236, 1266.6888, -0.027025264, 0.9994526,
0.016913317, -144.99332, -0.52001464, -0.025548348, -0.8296365, 737.4148)
Scaling: (1.0303512389896115, 0.9727198049479872, 1.00608507180392)
spim_TL01_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5038225, -0.005221829, 0.86523354, 15.770584, 0.007803552, 1.0002604,
-0.0056160986, -218.58914, -0.8251103, -0.022601351, 0.5632181, 788.3238)
Scaling: (0.9611694714456562, 1.0399311467576569, 0.998166135190745)
(Wed Jun 05 00:39:11 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:39:11 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:39:11 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL02_Angle0.tif
(Wed Jun 05 00:39:11 CEST 2013): Opening Image
(Wed Jun 05 00:39:13 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:13 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:39:13 CEST 2013): Computing Difference-of-Mean
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(Wed Jun 05 00:39:15 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:17 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1084 in view spim_TL02_Angle0.tif
(Wed Jun 05 00:39:17 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL02_Angle1.tif
(Wed Jun 05 00:39:17 CEST 2013): Opening Image
(Wed Jun 05 00:39:19 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:19 CEST 2013): min intensity = 190.0, max intensity = 4095.0
(Wed Jun 05 00:39:19 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:39:21 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:23 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1356 in view spim_TL02_Angle1.tif
(Wed Jun 05 00:39:23 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL02_Angle2.tif
(Wed Jun 05 00:39:23 CEST 2013): Opening Image
(Wed Jun 05 00:39:25 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:25 CEST 2013): min intensity = 192.0, max intensity = 4095.0
(Wed Jun 05 00:39:25 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:39:27 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:29 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1016 in view spim_TL02_Angle2.tif
(Wed Jun 05 00:39:29 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL02_Angle3.tif
(Wed Jun 05 00:39:29 CEST 2013): Opening Image
(Wed Jun 05 00:39:31 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:31 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:39:31 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:39:33 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:36 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1067 in view spim_TL02_Angle3.tif
(Wed Jun 05 00:39:36 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL02_Angle4.tif
(Wed Jun 05 00:39:36 CEST 2013): Opening Image
(Wed Jun 05 00:39:38 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:39 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:39:39 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:39:41 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:44 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1084 in view spim_TL02_Angle4.tif
Opening files took: 8 sec (27 %)
Computation took: 24 sec (73 %)
(Wed Jun 05 00:39:44 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:39:44 CEST 2013): Starting Registration
spim_TL02_Angle0.tif<->spim_TL02_Angle2.tif: Remaining inliers after RANSAC: 33 of 33 (100%)
with average error 0.554521851693139
spim_TL02_Angle2.tif<->spim_TL02_Angle3.tif: Remaining inliers after RANSAC: 24 of 26 (92%)
with average error 0.6971105293681225
spim_TL02_Angle3.tif<->spim_TL02_Angle4.tif: Remaining inliers after RANSAC: 45 of 48 (94%)
with average error 0.6997178537978066
spim_TL02_Angle2.tif<->spim_TL02_Angle4.tif: Remaining inliers after RANSAC: 48 of 52 (92%)
with average error 0.5289047968884308
spim_TL02_Angle0.tif<->spim_TL02_Angle3.tif: Remaining inliers after RANSAC: 47 of 49 (96%)
with average error 0.7216279419495705
spim_TL02_Angle1.tif<->spim_TL02_Angle3.tif: Remaining inliers after RANSAC: 54 of 61 (89%)
with average error 0.5939421428850403
spim_TL02_Angle0.tif<->spim_TL02_Angle4.tif: Remaining inliers after RANSAC: 61 of 62 (98%)
with average error 1.0176750460609063
spim_TL02_Angle1.tif<->spim_TL02_Angle4.tif: Remaining inliers after RANSAC: 46 of 49 (94%)
with average error 0.5737335954023441
spim_TL02_Angle1.tif<->spim_TL02_Angle2.tif: Remaining inliers after RANSAC: 29 of 32 (91%)
with average error 0.8358245214511608
spim_TL02_Angle0.tif<->spim_TL02_Angle1.tif: Remaining inliers after RANSAC: 51 of 51 (100%)
with average error 0.9705642467620326
spim_TL02_Angle0.tif (id = 0) has 192 correspondences in 4 other views.
spim_TL02_Angle1.tif (id = 1) has 180 correspondences in 4 other views.
spim_TL02_Angle2.tif (id = 2) has 134 correspondences in 4 other views.
spim_TL02_Angle3.tif (id = 3) has 170 correspondences in 4 other views.
spim_TL02_Angle4.tif (id = 4) has 200 correspondences in 4 other views.
The total number of detections was: 5607
The total number of correspondence candidates was: 463
The total number of true correspondences is: 438
Fixing tile spim_TL02_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 248 iterations:
  average displacement: 1.156px
  minimal displacement: 1.078px
  maximal displacement: 1.259px
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Optimizer Matrices
spim_TL02_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL02_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.40419394, -0.018287554, -0.95613265, 553.08295, -0.029161267, 0.9980957,
-0.029895067, -86.42487, 0.9135324, 0.014583125, 0.32500416, -441.00543)
Scaling: (1.0009694637784665, 1.0488226721484024, 0.956163600928084)
spim_TL02_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.74176866, -0.042267706, -0.64734304, 1230.7764, -0.0488849, 0.99811673,
-0.007161379, -116.749, 0.62792253, -3.9964914E-4, -0.80864805, -128.16505)
Scaling: (0.9685878021953599, 1.0417193295334133, 0.9972940322062583)
spim_TL02_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.86638355, -0.0366426, 0.55709064, 1241.8599, -0.031146798, 0.99865144,
0.013410243, -144.52487, -0.52141213, -0.027062543, -0.83453, 754.5278)
Scaling: (1.0314473526990227, 0.9777549164209066, 1.004949142289991)
spim_TL02_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5035002, -0.005517155, 0.8649696, 14.4539795, 0.0023336138, 0.9991383,
-7.2437525E-4, -214.91245, -0.8269624, -0.02361586, 0.56646174, 791.0532)
Scaling: (0.9626320993385752, 1.0407091394217667, 0.9977805462503775)
(Wed Jun 05 00:39:44 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:39:44 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:39:44 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL03_Angle0.tif
(Wed Jun 05 00:39:44 CEST 2013): Opening Image
(Wed Jun 05 00:39:46 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:46 CEST 2013): min intensity = 189.0, max intensity = 4095.0
(Wed Jun 05 00:39:46 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:39:48 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:51 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1152 in view spim_TL03_Angle0.tif
(Wed Jun 05 00:39:51 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL03_Angle1.tif
(Wed Jun 05 00:39:51 CEST 2013): Opening Image
(Wed Jun 05 00:39:52 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:53 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:39:53 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:39:54 CEST 2013): Extracting peaks
(Wed Jun 05 00:39:57 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1268 in view spim_TL03_Angle1.tif
(Wed Jun 05 00:39:57 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL03_Angle2.tif
(Wed Jun 05 00:39:57 CEST 2013): Opening Image
(Wed Jun 05 00:39:58 CEST 2013): Computing Integral Image
(Wed Jun 05 00:39:59 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:39:59 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:00 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:03 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1059 in view spim_TL03_Angle2.tif
(Wed Jun 05 00:40:03 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL03_Angle3.tif
(Wed Jun 05 00:40:03 CEST 2013): Opening Image
(Wed Jun 05 00:40:04 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:05 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:40:05 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:06 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:09 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1068 in view spim_TL03_Angle3.tif
(Wed Jun 05 00:40:09 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL03_Angle4.tif
(Wed Jun 05 00:40:09 CEST 2013): Opening Image
(Wed Jun 05 00:40:11 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:11 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:40:11 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:13 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:16 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1237 in view spim_TL03_Angle4.tif
Opening files took: 7 sec (25 %)
Computation took: 23 sec (75 %)
(Wed Jun 05 00:40:16 CEST 2013): Finished Bead Extraction
```

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(Wed Jun 05 00:40:16 CEST 2013): Starting Registration
spim_TL03_Angle2.tif<->spim_TL03_Angle3.tif: Remaining inliers after RANSAC: 21 of 24 (88%)
with average error 0.5436144166049504
spim_TL03_Angle3.tif<->spim_TL03_Angle4.tif: Remaining inliers after RANSAC: 16 of 16 (100%)
with average error 0.8691517538391055
spim_TL03_Angle1.tif<->spim_TL03_Angle2.tif: Remaining inliers after RANSAC: 23 of 26 (88%)
with average error 0.6294371550497802
spim_TL03_Angle0.tif<->spim_TL03_Angle2.tif: Remaining inliers after RANSAC: 33 of 33 (100%)
with average error 0.8239582298379956
spim_TL03_Angle0.tif<->spim_TL03_Angle3.tif: Remaining inliers after RANSAC: 39 of 41 (95%)
with average error 0.9300777296989392
spim_TL03_Angle1.tif<->spim_TL03_Angle4.tif: Remaining inliers after RANSAC: 37 of 40 (93%)
with average error 0.5892297041577261
spim_TL03_Angle2.tif<->spim_TL03_Angle4.tif: Remaining inliers after RANSAC: 54 of 54 (100%)
with average error 0.5512454860188343
spim_TL03_Angle1.tif<->spim_TL03_Angle3.tif: Remaining inliers after RANSAC: 54 of 58 (93%)
with average error 0.6307079091116234
spim_TL03_Angle0.tif<->spim_TL03_Angle4.tif: Remaining inliers after RANSAC: 23 of 23 (100%)
with average error 0.7268640781226365
spim_TL03_Angle0.tif<->spim_TL03_Angle1.tif: Remaining inliers after RANSAC: 26 of 27 (96%)
with average error 0.9293145904174218
spim_TL03_Angle0.tif (id = 0) has 121 correspondences in 4 other views.
spim_TL03_Angle1.tif (id = 1) has 140 correspondences in 4 other views.
spim_TL03_Angle2.tif (id = 2) has 131 correspondences in 4 other views.
spim_TL03_Angle3.tif (id = 3) has 130 correspondences in 4 other views.
spim_TL03_Angle4.tif (id = 4) has 130 correspondences in 4 other views.
The total number of detections was: 5784
The total number of correspondence candidates was: 342
The total number of true correspondences is: 326
Fixing tile spim_TL03_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 241 iterations:
  average displacement: 1.132px
  minimal displacement: 1.025px
  maximal displacement: 1.219px
Optimizer Matrices
spim_TL03_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL03_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.40569985, -0.018495731, -0.948411, 642.6992, -0.029486366, 0.9995275,
-0.029508293, 79.77105, 0.91255873, 0.014879453, 0.32827157, -486.2798)
Scaling: (1.0435628648059985, 0.9555724327906402, 1.001907298527061)
spim_TL03_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.74152964, -0.042413097, -0.6526367, 1356.646, -0.047988683, 0.9995468,
-0.0065663755, 106.50809, 0.6281764, 0.0010622218, -0.8070083, -29.688583)
Scaling: (0.9696948434191229, 1.0426301121505903, 0.9987608057659033)
spim_TL03_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.86739177, -0.0377056, 0.54908323, 1316.1748, -0.0308566, 0.9995442, 0.013098657,
78.390945, -0.5206367, -0.025682665, -0.8285539, 831.83344)
Scaling: (1.0273973798609841, 0.9745666129623703, 1.004187822262311)
spim_TL03_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.503378, -0.005477734, 0.865372, 126.365265, 0.0020864373, 1.0006967,
-0.002718836, 67.570885, -0.8272797, -0.023980603, 0.566679, 650.504)
Scaling: (0.9629242749006367, 1.0418322849740755, 0.9985728875150933)
(Wed Jun 05 00:40:16 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:40:16 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:40:16 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL04_Angle0.tif
(Wed Jun 05 00:40:16 CEST 2013): Opening Image
(Wed Jun 05 00:40:18 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:18 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:40:18 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:20 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:23 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1018 in view spim_TL04_Angle0.tif
(Wed Jun 05 00:40:23 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL04_Angle1.tif
(Wed Jun 05 00:40:23 CEST 2013): Opening Image
(Wed Jun 05 00:40:24 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:24 CEST 2013): min intensity = 191.0, max intensity = 4095.0
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(Wed Jun 05 00:40:24 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:26 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:29 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1153 in view spim_TL04_Angle1.tif
(Wed Jun 05 00:40:29 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL04_Angle2.tif
(Wed Jun 05 00:40:29 CEST 2013): Opening Image
(Wed Jun 05 00:40:30 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:31 CEST 2013): min intensity = 190.0, max intensity = 4095.0
(Wed Jun 05 00:40:31 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:32 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:35 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 992 in view spim_TL04_Angle2.tif
(Wed Jun 05 00:40:35 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL04_Angle3.tif
(Wed Jun 05 00:40:35 CEST 2013): Opening Image
(Wed Jun 05 00:40:36 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:37 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:40:37 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:38 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:41 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1051 in view spim_TL04_Angle3.tif
(Wed Jun 05 00:40:41 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL04_Angle4.tif
(Wed Jun 05 00:40:41 CEST 2013): Opening Image
(Wed Jun 05 00:40:43 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:43 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:40:43 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:45 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:49 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1218 in view spim_TL04_Angle4.tif
Opening files took: 8 sec (25 %)
Computation took: 24 sec (75 %)
(Wed Jun 05 00:40:49 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:40:49 CEST 2013): Starting Registration
spim_TL04_Angle1.tif<->spim_TL04_Angle2.tif: Remaining inliers after RANSAC: 27 of 31 (87%)
with average error 0.6770253656087099
spim_TL04_Angle0.tif<->spim_TL04_Angle1.tif: Remaining inliers after RANSAC: 16 of 17 (94%)
with average error 0.49668858386576165
spim_TL04_Angle2.tif<->spim_TL04_Angle4.tif: Remaining inliers after RANSAC: 39 of 40 (98%)
with average error 0.604714572811738
spim_TL04_Angle1.tif<->spim_TL04_Angle4.tif: Remaining inliers after RANSAC: 40 of 46 (87%)
with average error 0.5784013452008367
spim_TL04_Angle0.tif<->spim_TL04_Angle3.tif: Remaining inliers after RANSAC: 44 of 46 (96%)
with average error 0.9553350680931048
spim_TL04_Angle0.tif<->spim_TL04_Angle4.tif: Remaining inliers after RANSAC: 19 of 21 (90%)
with average error 0.5773730595645151
spim_TL04_Angle3.tif<->spim_TL04_Angle4.tif: Remaining inliers after RANSAC: 14 of 17 (82%)
with average error 1.328608668276242
spim_TL04_Angle0.tif<->spim_TL04_Angle2.tif: Remaining inliers after RANSAC: 29 of 29 (100%)
with average error 0.7848671625914245
spim_TL04_Angle2.tif<->spim_TL04_Angle3.tif: Remaining inliers after RANSAC: 21 of 23 (91%)
with average error 0.5908940363497962
spim_TL04_Angle1.tif<->spim_TL04_Angle3.tif: Remaining inliers after RANSAC: 40 of 41 (98%)
with average error 0.6048049416393041
spim_TL04_Angle0.tif (id = 0) has 108 correspondences in 4 other views.
spim_TL04_Angle1.tif (id = 1) has 123 correspondences in 4 other views.
spim_TL04_Angle2.tif (id = 2) has 116 correspondences in 4 other views.
spim_TL04_Angle3.tif (id = 3) has 119 correspondences in 4 other views.
spim_TL04_Angle4.tif (id = 4) has 112 correspondences in 4 other views.
The total number of detections was: 5432
The total number of correspondence candidates was: 311
The total number of true correspondences is: 289
Fixing tile spim_TL04_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 250 iterations:
  average displacement: 1.150px
  minimal displacement: 1.059px
  maximal displacement: 1.235px
Optimizer Matrices
spim_TL04_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL04_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.40241683, -0.018073127, -0.9451696, 642.8211, -0.03335616, 0.9993933,
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-0.032930255, 90.22622, 0.9077282, 0.014356123, 0.32321247, -480.37646)
Scaling: (1.0027985974902407, 0.9482246883587468, 1.0394726199841982)
spim_TL04_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.74380106, -0.042773027, -0.6506614, 1353.4858, -0.050441988, 0.99948424,
-0.0054530203, 106.967804, 0.6236167, 0.0012751184, -0.8054102, -27.758743)
Scaling: (0.9687459155362814, 1.0400023364033508, 0.9987413038020067)
spim_TL04_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.8655474, -0.03762665, 0.57251525, 1284.2312, -0.02871326, 0.9996922,
0.0126725435, 74.52148, -0.518628, -0.026235696, -0.83121806, 842.1011)
Scaling: (1.0410840935547128, 0.9725201630124902, 1.0048216655651088)
spim_TL04_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5063629, -0.0050591454, 0.8608465, 122.53534, 0.006016588, 1.0006853,
-0.0085571855, 68.335846, -0.8218114, -0.024368063, 0.5612507, 649.58215)
Scaling: (0.9604252422918622, 1.0365610367180502, 0.9965244289462756)
(Wed Jun 05 00:40:49 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:40:49 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:40:49 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL05_Angle0.tif
(Wed Jun 05 00:40:49 CEST 2013): Opening Image
(Wed Jun 05 00:40:50 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:50 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:40:50 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:52 CEST 2013): Extracting peaks
(Wed Jun 05 00:40:55 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1046 in view spim_TL05_Angle0.tif
(Wed Jun 05 00:40:55 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL05_Angle1.tif
(Wed Jun 05 00:40:55 CEST 2013): Opening Image
(Wed Jun 05 00:40:56 CEST 2013): Computing Integral Image
(Wed Jun 05 00:40:56 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:40:56 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:40:58 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:01 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1172 in view spim_TL05_Angle1.tif
(Wed Jun 05 00:41:01 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL05_Angle2.tif
(Wed Jun 05 00:41:01 CEST 2013): Opening Image
(Wed Jun 05 00:41:02 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:02 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:02 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:04 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:07 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1009 in view spim_TL05_Angle2.tif
(Wed Jun 05 00:41:07 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL05_Angle3.tif
(Wed Jun 05 00:41:07 CEST 2013): Opening Image
(Wed Jun 05 00:41:09 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:09 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:09 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:10 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:13 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1039 in view spim_TL05_Angle3.tif
(Wed Jun 05 00:41:13 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL05_Angle4.tif
(Wed Jun 05 00:41:13 CEST 2013): Opening Image
(Wed Jun 05 00:41:15 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:15 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:15 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:17 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:20 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1212 in view spim_TL05_Angle4.tif
Opening files took: 6 sec (22 %)
Computation took: 24 sec (78 %)
(Wed Jun 05 00:41:20 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:41:20 CEST 2013): Starting Registration
spim_TL05_Angle0.tif<->spim_TL05_Angle2.tif: Remaining inliers after RANSAC: 25 of 26 (96%)
with average error 1.035907996892929
spim_TL05_Angle3.tif<->spim_TL05_Angle4.tif: Remaining inliers after RANSAC: 12 of 15 (80%)
with average error 0.6571984315911928
spim_TL05_Angle0.tif<->spim_TL05_Angle4.tif: Remaining inliers after RANSAC: 17 of 19 (89%)
with average error 0.8551975593847387
spim_TL05_Angle0.tif<->spim_TL05_Angle1.tif: Remaining inliers after RANSAC: 19 of 20 (95%)
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with average error 0.9007556783525568
spim_TL05_Angle1.tif<->spim_TL05_Angle3.tif: Remaining inliers after RANSAC: 43 of 46 (93%)
with average error 0.5937172959363738
spim_TL05_Angle1.tif<->spim_TL05_Angle4.tif: Remaining inliers after RANSAC: 30 of 30 (100%)
with average error 0.6641569338738919
spim_TL05_Angle0.tif<->spim_TL05_Angle3.tif: Remaining inliers after RANSAC: 41 of 43 (95%)
with average error 1.182275191312883
spim_TL05_Angle2.tif<->spim_TL05_Angle3.tif: Remaining inliers after RANSAC: 25 of 25 (100%)
with average error 0.6098493030667305
spim_TL05_Angle1.tif<->spim_TL05_Angle2.tif: Remaining inliers after RANSAC: 22 of 25 (88%)
with average error 0.7304955781860785
spim_TL05_Angle2.tif<->spim_TL05_Angle4.tif: Remaining inliers after RANSAC: 53 of 55 (96%)
with average error 0.5989481577614567
spim_TL05_Angle0.tif (id = 0) has 102 correspondences in 4 other views.
spim_TL05_Angle1.tif (id = 1) has 114 correspondences in 4 other views.
spim_TL05_Angle2.tif (id = 2) has 125 correspondences in 4 other views.
spim_TL05_Angle3.tif (id = 3) has 121 correspondences in 4 other views.
spim_TL05_Angle4.tif (id = 4) has 112 correspondences in 4 other views.
The total number of detections was: 5478
The total number of correspondence candidates was: 304
The total number of true correspondences is: 287
Fixing tile spim_TL05_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 257 iterations:
  average displacement: 1.193px
  minimal displacement: 1.023px
  maximal displacement: 1.442px
Optimizer Matrices
spim_TL05_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL05_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.40064082, -0.017726839, -0.9479248, 646.71313, -0.027313158, 0.99926883,
-0.02833569, 80.239044, 0.91357327, 0.014899062, 0.32479084, -485.1395)
Scaling: (1.0410821748625767, 0.9557248692033675, 1.0012696389194815)
spim_TL05_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.7428219, -0.042445645, -0.6489826, 1351.1317, -0.045362167, 0.999534,
-0.009919286, 103.52551, 0.6295268, 0.0019030795, -0.8073426, -48.137314)
Scaling: (0.9713104005108699, 1.0403679123106329, 0.9991441806367634)
spim_TL05_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.86513805, -0.037501678, 0.57170606, 1263.8777, -0.031058155, 0.9995282,
0.008685172, 74.67166, -0.521399, -0.025318917, -0.83651364, 856.6714)
Scaling: (1.0406543217507405, 1.0036271478883543, 0.9792032221991572)
spim_TL05_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5057756, -0.004880309, 0.8584038, 126.77304, -6.163735E-4, 1.0000982,
-0.006359458, 77.81436, -0.82793975, -0.023887923, 0.5659199, 652.7473)
Scaling: (0.9645711542222993, 1.0376586637631557, 0.9960493333182278)
(Wed Jun 05 00:41:21 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:41:21 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:41:21 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL06_Angle0.tif
(Wed Jun 05 00:41:21 CEST 2013): Opening Image
(Wed Jun 05 00:41:22 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:23 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:23 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:24 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:27 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1012 in view spim_TL06_Angle0.tif
(Wed Jun 05 00:41:27 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL06_Angle1.tif
(Wed Jun 05 00:41:27 CEST 2013): Opening Image
(Wed Jun 05 00:41:28 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:29 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:29 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:30 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:33 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1169 in view spim_TL06_Angle1.tif
(Wed Jun 05 00:41:33 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL06_Angle2.tif
(Wed Jun 05 00:41:33 CEST 2013): Opening Image
(Wed Jun 05 00:41:35 CEST 2013): Computing Integral Image

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(Wed Jun 05 00:41:35 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:35 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:37 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:39 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 950 in view spim_TL06_Angle2.tif
(Wed Jun 05 00:41:39 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL06_Angle3.tif
(Wed Jun 05 00:41:39 CEST 2013): Opening Image
(Wed Jun 05 00:41:41 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:42 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:42 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:43 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:46 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1008 in view spim_TL06_Angle3.tif
(Wed Jun 05 00:41:46 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL06_Angle4.tif
(Wed Jun 05 00:41:46 CEST 2013): Opening Image
(Wed Jun 05 00:41:48 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:48 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:48 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:50 CEST 2013): Extracting peaks
(Wed Jun 05 00:41:53 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1153 in view spim_TL06_Angle4.tif
Opening files took: 8 sec (26 %)
Computation took: 24 sec (74 %)
(Wed Jun 05 00:41:53 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:41:53 CEST 2013): Starting Registration
spim_TL06_Angle0.tif<->spim_TL06_Angle4.tif: Remaining inliers after RANSAC: 16 of 19 (84%)
with average error 0.37678824877366424
spim_TL06_Angle0.tif<->spim_TL06_Angle2.tif: Remaining inliers after RANSAC: 25 of 26 (96%)
with average error 0.8688929492235183
spim_TL06_Angle1.tif<->spim_TL06_Angle2.tif: Remaining inliers after RANSAC: 22 of 25 (88%)
with average error 0.6902041379362345
spim_TL06_Angle1.tif<->spim_TL06_Angle3.tif: Remaining inliers after RANSAC: 39 of 42 (93%)
with average error 0.5276677251244203
spim_TL06_Angle0.tif<->spim_TL06_Angle1.tif: Remaining inliers after RANSAC: 22 of 24 (92%)
with average error 0.7297301143407822
spim_TL06_Angle3.tif<->spim_TL06_Angle4.tif: Remaining inliers after RANSAC: 22 of 23 (96%)
with average error 0.6356777928092263
spim_TL06_Angle1.tif<->spim_TL06_Angle4.tif: Remaining inliers after RANSAC: 26 of 26 (100%)
with average error 0.7879663728750669
spim_TL06_Angle2.tif<->spim_TL06_Angle3.tif: Remaining inliers after RANSAC: 30 of 30 (100%)
with average error 0.7595977370937665
spim_TL06_Angle2.tif<->spim_TL06_Angle4.tif: Remaining inliers after RANSAC: 55 of 56 (98%)
with average error 0.5653243664313446
spim_TL06_Angle0.tif<->spim_TL06_Angle3.tif: Remaining inliers after RANSAC: 46 of 47 (98%)
with average error 0.8428978991249333
spim_TL06_Angle0.tif (id = 0) has 109 correspondences in 4 other views.
spim_TL06_Angle1.tif (id = 1) has 109 correspondences in 4 other views.
spim_TL06_Angle2.tif (id = 2) has 132 correspondences in 4 other views.
spim_TL06_Angle3.tif (id = 3) has 137 correspondences in 4 other views.
spim_TL06_Angle4.tif (id = 4) has 119 correspondences in 4 other views.
The total number of detections was: 5292
The total number of correspondence candidates was: 318
The total number of true correspondences is: 303
Fixing tile spim_TL06_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 246 iterations:
  average displacement: 1.090px
  minimal displacement: 1.045px
  maximal displacement: 1.144px
Optimizer Matrices
spim_TL06_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL06_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.4019471, -0.018123448, -0.94941515, 643.9887, -0.026565894, 0.99999356,
-0.031975985, 86.95143, 0.90984946, 0.015314827, 0.32108918, -478.69415)
Scaling: (1.0024096594589158, 0.9508485621397472, 1.0426960902620872)
spim_TL06_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.74307096, -0.04229408, -0.6503768, 1350.867, -0.045259617, 0.99987435,
-0.00910145, 107.2758, 0.62513214, 0.002267208, -0.805896, -41.837677)
Scaling: (0.969682848632148, 1.0391979831248561, 0.9994296423258292)
spim_TL06_Angle3.tif (id = 3):
```

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Transformation:
3d-affine: (-0.8651256, -0.037340384, 0.5560009, 1292.4794, -0.032303065, 0.99945796,
0.004552126, 81.7959, -0.5200823, -0.025575923, -0.82603866, 843.71893)
Scaling: (1.0296682501585668, 0.9743926675610988, 1.0013869457729445)
spim_TL06_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.50565606, -0.0051612062, 0.8625701, 122.84003, -8.2300743E-4, 1.0010158,
-0.0058299266, 79.84306, -0.8234671, -0.023073934, 0.56407094, 650.40784)
Scaling: (0.9624436529435839, 1.0379529258315343, 0.9974826010869479)
(Wed Jun 05 00:41:53 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:41:53 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:41:53 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL07_Angle0.tif
(Wed Jun 05 00:41:53 CEST 2013): Opening Image
(Wed Jun 05 00:41:55 CEST 2013): Computing Integral Image
(Wed Jun 05 00:41:56 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:41:56 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:41:57 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:00 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 971 in view spim_TL07_Angle0.tif
(Wed Jun 05 00:42:00 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL07_Angle1.tif
(Wed Jun 05 00:42:00 CEST 2013): Opening Image
(Wed Jun 05 00:42:01 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:02 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:42:02 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:03 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:06 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1082 in view spim_TL07_Angle1.tif
(Wed Jun 05 00:42:06 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL07_Angle2.tif
(Wed Jun 05 00:42:06 CEST 2013): Opening Image
(Wed Jun 05 00:42:08 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:08 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:42:08 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:09 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:12 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 992 in view spim_TL07_Angle2.tif
(Wed Jun 05 00:42:12 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL07_Angle3.tif
(Wed Jun 05 00:42:12 CEST 2013): Opening Image
(Wed Jun 05 00:42:14 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:14 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:42:14 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:16 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:18 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1007 in view spim_TL07_Angle3.tif
(Wed Jun 05 00:42:18 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL07_Angle4.tif
(Wed Jun 05 00:42:18 CEST 2013): Opening Image
(Wed Jun 05 00:42:20 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:21 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:42:21 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:23 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:26 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1172 in view spim_TL07_Angle4.tif
Opening files took: 8 sec (25 %)
Computation took: 24 sec (75 %)
(Wed Jun 05 00:42:26 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:42:26 CEST 2013): Starting Registration
spim_TL07_Angle2.tif<->spim_TL07_Angle3.tif: Remaining inliers after RANSAC: 22 of 23 (96%)
with average error 0.557337103242224
spim_TL07_Angle1.tif<->spim_TL07_Angle4.tif: Remaining inliers after RANSAC: 26 of 30 (87%)
with average error 0.6221274922673519
spim_TL07_Angle2.tif<->spim_TL07_Angle4.tif: Remaining inliers after RANSAC: 56 of 60 (93%)
with average error 0.5407704277230161
spim_TL07_Angle0.tif<->spim_TL07_Angle4.tif: Remaining inliers after RANSAC: 20 of 21 (95%)
with average error 0.7636448815464973
spim_TL07_Angle3.tif<->spim_TL07_Angle4.tif: Remaining inliers after RANSAC: 20 of 22 (91%)
with average error 0.4980559840798378
spim_TL07_Angle0.tif<->spim_TL07_Angle1.tif: Remaining inliers after RANSAC: 20 of 20 (100%)
with average error 0.6922004453837871
spim_TL07_Angle1.tif<->spim_TL07_Angle2.tif: Remaining inliers after RANSAC: 21 of 21 (100%)
with average error 0.6305022594474611
spim_TL07_Angle0.tif<->spim_TL07_Angle2.tif: Remaining inliers after RANSAC: 22 of 22 (100%)
```

with average error 0.762807699767026
spim_TL07_Angle0.tif<–>spim_TL07_Angle3.tif: Remaining inliers after RANSAC: 38 of 40 (95%)
with average error 0.9896666666394788
spim_TL07_Angle1.tif<–>spim_TL07_Angle3.tif: Remaining inliers after RANSAC: 41 of 42 (98%)
with average error 0.5768868038203658
spim_TL07_Angle0.tif (id = 0) has 100 correspondences in 4 other views.
spim_TL07_Angle1.tif (id = 1) has 108 correspondences in 4 other views.
spim_TL07_Angle2.tif (id = 2) has 121 correspondences in 4 other views.
spim_TL07_Angle3.tif (id = 3) has 121 correspondences in 4 other views.
spim_TL07_Angle4.tif (id = 4) has 122 correspondences in 4 other views.
The total number of detections was: 5224
The total number of correspondence candidates was: 301
The total number of true correspondences is: 286
Fixing tile spim_TL07_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 257 iterations:
  average displacement: 1.087px
  minimal displacement: 0.933px
  maximal displacement: 1.226px
Optimizer Matrices
spim_TL07_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL07_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.3997766, -0.017848507, -0.949388, 649.13196, -0.019860417, 1.000031,
-0.030136943, 80.12591, 0.91293067, 0.014893586, 0.32583514, -482.28088)
Scaling: (1.0016786422124295, 0.9572684673682856, 1.0406497642091408)
spim_TL07_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.7440822, -0.042532235, -0.6496715, 1362.1935, -0.041477036, 0.9998373,
-0.016970873, 105.64282, 0.6276334, 0.0016449466, -0.8086945, -13.776932)
Scaling: (0.9717202622456436, 1.0401808770092782, 1.0004598657967838)
spim_TL07_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.86428547, -0.036783405, 0.558666, 1304.5334, -0.035322383, 0.99964494,
-0.0015835464, 87.59408, -0.5218387, -0.025834754, -0.82758915, 836.5901)
Scaling: (1.0306195865473817, 0.9776582406431403, 1.000442294416866)
spim_TL07_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5075393, -0.0051861405, 0.86219716, 124.97885, -0.0061711445, 1.0006838,
-0.0018901229, 82.750595, -0.826244, -0.023595268, 0.56751776, 653.28)
Scaling: (0.9656105796380754, 1.0387376818544065, 0.9981729136036293)
(Wed Jun 05 00:42:26 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:42:26 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:42:26 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL08_Angle0.tif
(Wed Jun 05 00:42:26 CEST 2013): Opening Image
(Wed Jun 05 00:42:28 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:28 CEST 2013): min intensity = 190.0, max intensity = 4095.0
(Wed Jun 05 00:42:28 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:30 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:32 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 965 in view spim_TL08_Angle0.tif
(Wed Jun 05 00:42:33 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL08_Angle1.tif
(Wed Jun 05 00:42:33 CEST 2013): Opening Image
(Wed Jun 05 00:42:34 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:35 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:42:35 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:36 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:39 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1082 in view spim_TL08_Angle1.tif
(Wed Jun 05 00:42:39 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL08_Angle2.tif
(Wed Jun 05 00:42:39 CEST 2013): Opening Image
(Wed Jun 05 00:42:40 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:41 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:42:41 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:42 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:45 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1027 in view spim_TL08_Angle2.tif
(Wed Jun 05 00:42:45 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL08_Angle3.tif
(Wed Jun 05 00:42:45 CEST 2013): Opening Image

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(Wed Jun 05 00:42:47 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:47 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:42:47 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:49 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:51 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1000 in view spim_TL08_Angle3.tif
(Wed Jun 05 00:42:51 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL08_Angle4.tif
(Wed Jun 05 00:42:51 CEST 2013): Opening Image
(Wed Jun 05 00:42:53 CEST 2013): Computing Integral Image
(Wed Jun 05 00:42:53 CEST 2013): min intensity = 190.0, max intensity = 4095.0
(Wed Jun 05 00:42:53 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:42:55 CEST 2013): Extracting peaks
(Wed Jun 05 00:42:59 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1175 in view spim_TL08_Angle4.tif
Opening files took: 7 sec (24 %)
Computation took: 24 sec (76 %)
(Wed Jun 05 00:42:59 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:42:59 CEST 2013): Starting Registration
spim_TL08_Angle3.tif<->spim_TL08_Angle4.tif: Remaining inliers after RANSAC: 17 of 18 (94%)
with average error 0.6223507111563402
spim_TL08_Angle1.tif<->spim_TL08_Angle2.tif: Remaining inliers after RANSAC: 21 of 22 (95%)
with average error 0.7482360970406305
spim_TL08_Angle0.tif<->spim_TL08_Angle4.tif: Remaining inliers after RANSAC: 23 of 23 (100%)
with average error 0.7658282887676487
spim_TL08_Angle1.tif<->spim_TL08_Angle3.tif: Remaining inliers after RANSAC: 40 of 42 (95%)
with average error 0.5866857685148714
spim_TL08_Angle1.tif<->spim_TL08_Angle4.tif: Remaining inliers after RANSAC: 29 of 30 (97%)
with average error 0.6479087749431873
spim_TL08_Angle2.tif<->spim_TL08_Angle4.tif: Remaining inliers after RANSAC: 50 of 52 (96%)
with average error 0.6693464583158496
spim_TL08_Angle0.tif<->spim_TL08_Angle1.tif: Remaining inliers after RANSAC: 19 of 21 (90%)
with average error 0.5320807267960749
spim_TL08_Angle0.tif<->spim_TL08_Angle2.tif: Remaining inliers after RANSAC: 34 of 35 (97%)
with average error 0.8928359001874924
spim_TL08_Angle0.tif<->spim_TL08_Angle3.tif: Remaining inliers after RANSAC: 46 of 48 (96%)
with average error 0.9029915268006532
spim_TL08_Angle2.tif<->spim_TL08_Angle3.tif: Remaining inliers after RANSAC: 36 of 37 (97%)
with average error 0.6822722210652299
spim_TL08_Angle0.tif (id = 0) has 122 correspondences in 4 other views.
spim_TL08_Angle1.tif (id = 1) has 109 correspondences in 4 other views.
spim_TL08_Angle2.tif (id = 2) has 141 correspondences in 4 other views.
spim_TL08_Angle3.tif (id = 3) has 139 correspondences in 4 other views.
spim_TL08_Angle4.tif (id = 4) has 119 correspondences in 4 other views.
The total number of detections was: 5249
The total number of correspondence candidates was: 328
The total number of true correspondences is: 315
Fixing tile spim_TL08_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 238 iterations:
  average displacement: 1.113px
  minimal displacement: 1.053px
  maximal displacement: 1.170px
Optimizer Matrices
spim_TL08_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL08_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.40276933, -0.01821334, -0.9496449, 649.94116, -0.020247743, 0.9998152,
-0.02848208, 77.43733, 0.9121163, 0.0150475595, 0.3266977, -479.8704)
Scaling: (1.0011927061695436, 0.9566959377563736, 1.0423492772135314)
spim_TL08_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.7426895, -0.04276769, -0.6496081, 1347.8552, -0.04168374, 0.999479, -0.01982984,
105.5674, 0.62743676, 0.0016390868, -0.8040806, -48.876587)
Scaling: (0.9707753207664053, 1.0360562773527273, 1.0004520396380485)
spim_TL08_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.86561954, -0.037447006, 0.55223244, 1263.34, -0.03571473, 0.9992811,
-0.0015845448, 80.98682, -0.5205697, -0.025495203, -0.8265748, 863.44885)
Scaling: (1.028001908456819, 0.9766575515261694, 0.9998608563304446)
spim_TL08_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5055094, -0.005567752, 0.86216897, 123.84897, -0.0061119013, 1.0004375,
-0.0040639043, 78.92612, -0.82538354, -0.023411497, 0.56426644, 660.5895)
```

Scaling: (0.9641833317707469, 1.0373754850508234, 0.9971160586241823)
(Wed Jun 05 00:42:59 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:42:59 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:42:59 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL09_Angle0.tif
(Wed Jun 05 00:42:59 CEST 2013): Opening Image
(Wed Jun 05 00:43:00 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:01 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:01 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:02 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:05 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 985 in view spim_TL09_Angle0.tif
(Wed Jun 05 00:43:05 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL09_Angle1.tif
(Wed Jun 05 00:43:05 CEST 2013): Opening Image
(Wed Jun 05 00:43:07 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:07 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:07 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:09 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:11 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1060 in view spim_TL09_Angle1.tif
(Wed Jun 05 00:43:11 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL09_Angle2.tif
(Wed Jun 05 00:43:11 CEST 2013): Opening Image
(Wed Jun 05 00:43:13 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:13 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:13 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:15 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:17 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 971 in view spim_TL09_Angle2.tif
(Wed Jun 05 00:43:17 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL09_Angle3.tif
(Wed Jun 05 00:43:17 CEST 2013): Opening Image
(Wed Jun 05 00:43:19 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:19 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:19 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:21 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:24 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1070 in view spim_TL09_Angle3.tif
(Wed Jun 05 00:43:24 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL09_Angle4.tif
(Wed Jun 05 00:43:24 CEST 2013): Opening Image
(Wed Jun 05 00:43:25 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:26 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:26 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:28 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:31 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1180 in view spim_TL09_Angle4.tif
Opening files took: 7 sec (24 %)
Computation took: 24 sec (76 %)
(Wed Jun 05 00:43:31 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:43:31 CEST 2013): Starting Registration
spim_TL09_Angle1.tif<->spim_TL09_Angle3.tif: Remaining inliers after RANSAC: 32 of 35 (91%)
with average error 0.5356886747758834
spim_TL09_Angle2.tif<->spim_TL09_Angle3.tif: Remaining inliers after RANSAC: 26 of 27 (96%)
with average error 0.7106734769275556
spim_TL09_Angle0.tif<->spim_TL09_Angle3.tif: Remaining inliers after RANSAC: 36 of 36 (100%)
with average error 0.970171661426624
spim_TL09_Angle1.tif<->spim_TL09_Angle4.tif: Remaining inliers after RANSAC: 30 of 30 (100%)
with average error 0.6221264898777008
spim_TL09_Angle1.tif<->spim_TL09_Angle2.tif: Remaining inliers after RANSAC: 23 of 24 (96%)
with average error 0.5950353087290473
spim_TL09_Angle2.tif<->spim_TL09_Angle4.tif: Remaining inliers after RANSAC: 43 of 43 (100%)
with average error 0.48725154112244745
spim_TL09_Angle0.tif<->spim_TL09_Angle2.tif: Remaining inliers after RANSAC: 26 of 26 (100%)
with average error 0.8133849919988558
spim_TL09_Angle3.tif<->spim_TL09_Angle4.tif: Remaining inliers after RANSAC: 16 of 18 (89%)
with average error 0.5459051737561822
spim_TL09_Angle0.tif<->spim_TL09_Angle1.tif: Remaining inliers after RANSAC: 24 of 24 (100%)
with average error 0.9574870035673181
spim_TL09_Angle0.tif<->spim_TL09_Angle4.tif: Remaining inliers after RANSAC: 25 of 25 (100%)
with average error 0.8974692803621293
spim_TL09_Angle0.tif (id = 0) has 111 correspondences in 4 other views.
spim_TL09_Angle1.tif (id = 1) has 109 correspondences in 4 other views.
spim_TL09_Angle2.tif (id = 2) has 118 correspondences in 4 other views.

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spim_TL09_Angle3.tif (id = 3) has 110 correspondences in 4 other views.
spim_TL09_Angle4.tif (id = 4) has 114 correspondences in 4 other views.
The total number of detections was: 5266
The total number of correspondence candidates was: 288
The total number of true correspondences is: 281
Fixing tile spim_TL09_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 239 iterations:
  average displacement: 1.131px
  minimal displacement: 1.062px
  maximal displacement: 1.214px
Optimizer Matrices
spim_TL09_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL09_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.40268475, -0.018176794, -0.9495015, 642.7211, -0.023814328, 0.99997574,
-0.032223105, 84.499344, 0.90585816, 0.015615661, 0.32218415, -471.39447)
Scaling: (0.9490208041805903, 1.0020444353578326, 1.0418672664508044)
spim_TL09_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.74257, -0.043000113, -0.6506964, 1359.0483, -0.04374142, 0.9997523,
-0.013972282, 105.705765, 0.6232626, 0.0019331351, -0.79835254, -18.495636)
Scaling: (0.9689403258414914, 1.032207550467952, 0.9999035629903883)
spim_TL09_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.8657976, -0.037543677, 0.5567429, 1272.7881, -0.033463378, 0.99975145,
0.0014965534, 82.12857, -0.51735085, -0.025236737, -0.8224613, 853.84717)
Scaling: (1.0307656774881064, 0.9707733135387319, 1.0007273990568653)
spim_TL09_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.5057884, -0.005127132, 0.8645668, 128.68869, -0.003193155, 1.0008881,
-0.004440427, 82.758095, -0.8204746, -0.02301019, 0.5623842, 653.11865)
Scaling: (0.9610928804073072, 1.0371576943559115, 0.9978573556731631)
(Wed Jun 05 00:43:31 CEST 2013): Finished Registration
Finished processing.
(Wed Jun 05 00:43:31 CEST 2013): Starting Bead Extraction
(Wed Jun 05 00:43:31 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL10_Angle0.tif
(Wed Jun 05 00:43:31 CEST 2013): Opening Image
(Wed Jun 05 00:43:33 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:33 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:33 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:35 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:37 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 986 in view spim_TL10_Angle0.tif
(Wed Jun 05 00:43:37 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL10_Angle1.tif
(Wed Jun 05 00:43:37 CEST 2013): Opening Image
(Wed Jun 05 00:43:39 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:39 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:39 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:41 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:44 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1105 in view spim_TL10_Angle1.tif
(Wed Jun 05 00:43:44 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL10_Angle2.tif
(Wed Jun 05 00:43:44 CEST 2013): Opening Image
(Wed Jun 05 00:43:45 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:45 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:45 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:47 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:49 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 997 in view spim_TL10_Angle2.tif
(Wed Jun 05 00:43:49 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL10_Angle3.tif
(Wed Jun 05 00:43:49 CEST 2013): Opening Image
(Wed Jun 05 00:43:51 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:51 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:51 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:53 CEST 2013): Extracting peaks
(Wed Jun 05 00:43:55 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1044 in view spim_TL10_Angle3.tif
(Wed Jun 05 00:43:55 CEST 2013): Starting Integral Image based DOM Bead Extraction for
spim_TL10_Angle4.tif
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(Wed Jun 05 00:43:55 CEST 2013): Opening Image
(Wed Jun 05 00:43:57 CEST 2013): Computing Integral Image
(Wed Jun 05 00:43:57 CEST 2013): min intensity = 191.0, max intensity = 4095.0
(Wed Jun 05 00:43:57 CEST 2013): Computing Difference-of-Mean
(Wed Jun 05 00:43:59 CEST 2013): Extracting peaks
(Wed Jun 05 00:44:03 CEST 2013): Subpixel localization using quadratic n-dimensional fit
Found peaks (possible beads): 1217 in view spim_TL10_Angle4.tif
Opening files took: 7 sec (23 %)
Computation took: 24 sec (77 %)
(Wed Jun 05 00:44:03 CEST 2013): Finished Bead Extraction
(Wed Jun 05 00:44:03 CEST 2013): Starting Registration
spim_TL10_Angle2.tif<->spim_TL10_Angle3.tif: Remaining inliers after RANSAC: 31 of 33 (94%)
with average error 0.595340369689849
spim_TL10_Angle0.tif<->spim_TL10_Angle2.tif: Remaining inliers after RANSAC: 28 of 29 (97%)
with average error 0.8315205810857671
spim_TL10_Angle1.tif<->spim_TL10_Angle3.tif: Remaining inliers after RANSAC: 46 of 49 (94%)
with average error 0.5448148521068304
spim_TL10_Angle2.tif<->spim_TL10_Angle4.tif: Remaining inliers after RANSAC: 54 of 54 (100%)
with average error 0.5212014684522591
spim_TL10_Angle1.tif<->spim_TL10_Angle4.tif: Remaining inliers after RANSAC: 30 of 36 (83%)
with average error 0.5491898854573569
spim_TL10_Angle1.tif<->spim_TL10_Angle2.tif: Remaining inliers after RANSAC: 20 of 23 (87%)
with average error 0.5562780350446701
spim_TL10_Angle0.tif<->spim_TL10_Angle4.tif: Remaining inliers after RANSAC: 30 of 35 (86%)
with average error 0.5565436022977034
spim_TL10_Angle3.tif<->spim_TL10_Angle4.tif: Remaining inliers after RANSAC: 27 of 31 (87%)
with average error 0.6270801149032733
spim_TL10_Angle0.tif<->spim_TL10_Angle1.tif: Remaining inliers after RANSAC: 22 of 23 (96%)
with average error 0.7714773308147084
spim_TL10_Angle0.tif<->spim_TL10_Angle3.tif: Remaining inliers after RANSAC: 41 of 42 (98%)
with average error 0.9773554874629509
spim_TL10_Angle0.tif (id = 0) has 121 correspondences in 4 other views.
spim_TL10_Angle1.tif (id = 1) has 118 correspondences in 4 other views.
spim_TL10_Angle2.tif (id = 2) has 133 correspondences in 4 other views.
spim_TL10_Angle3.tif (id = 3) has 145 correspondences in 4 other views.
spim_TL10_Angle4.tif (id = 4) has 141 correspondences in 4 other views.
The total number of detections was: 5349
The total number of correspondence candidates was: 355
The total number of true correspondences is: 329
Fixing tile spim_TL10_Angle0.tif (id = 0)
Successfully optimized configuration of 5 tiles after 241 iterations:
  average displacement: 1.061px
  minimal displacement: 0.969px
  maximal displacement: 1.135px
Optimizer Matrices
spim_TL10_Angle0.tif (id = 0):
Transformation:
3d-affine: (1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0, 0.0, 0.0, 0.0, 1.0, 0.0)
Scaling: (1.0, 1.0, 1.0)
spim_TL10_Angle1.tif (id = 1):
Transformation:
3d-affine: (0.4042379, -0.018660322, -0.94933385, 634.9332, -0.01954776, 1.0003175,
-0.031565487, 81.03401, 0.91225857, 0.015576581, 0.32645872, -481.42014)
Scaling: (1.0019437371597943, 0.9560923393841093, 1.043088943743049)
spim_TL10_Angle2.tif (id = 2):
Transformation:
3d-affine: (-0.7419125, -0.043111715, -0.6542955, 1358.185, -0.04128393, 0.9999015,
-0.01846683, 107.26535, 0.6277665, 0.002264537, -0.8050267, -29.990662)
Scaling: (0.9709298705849757, 1.0393753964533414, 1.0007005416328307)
spim_TL10_Angle3.tif (id = 3):
Transformation:
3d-affine: (-0.8676248, -0.038042076, 0.55252147, 1269.7186, -0.036008887, 1.0000833,
-0.0032428205, 87.359955, -0.5203005, -0.025067251, -0.8251871, 855.1474)
Scaling: (1.0299655298936534, 0.9756228506647238, 1.0002897530356072)
spim_TL10_Angle4.tif (id = 4):
Transformation:
3d-affine: (0.503989, -0.0059941784, 0.8676958, 128.7247, -0.006676011, 1.000897,
-0.0034971833, 78.77329, -0.8262433, -0.023293711, 0.56241727, 655.7154)
Scaling: (0.964838107518254, 1.039948210421312, 0.9979566274846698)
(Wed Jun 05 00:44:03 CEST 2013): Finished Registration
Finished processing.
```