Quality Report

Generated with Pix4Denterprise version 4.5.2 Preview

Important: Click on the different icons for:

Help to analyze the results in the Quality Report

Additional information about the sections

Click here for additional tips to analyze the Quality Report

Summary

Project	Testudo402
Processed	2019-09-07 13:35:29
Camera Model Name(s)	NIKOND3200_29.0_6016x4000 (RGB), NIKOND3200_26.0_6016x4000 (RGB), NIKOND3200_22.0_6016x4000 (RGB), NIKOND3200_20.0_6016x4000 (RGB), NIKOND3200_18.0_6016x4000 (RGB), NIKOND3200_24.0_6016x4000 (RGB), NIKOND3200_40.0_6016x4000 (RGB), NIKOND3200_28.0_6016x4000 (RGB), NIKOND3200_100.0_6016x4000 (RGB), NIKOND3200_130.0_6016x4000 (RGB), NIKOND3200_165.0_6016x4000 (RGB), NIKOND3200_185.0_6016x4000 (RGB), NIKOND3200_175.0_6016x4000 (RGB), NIKOND3200_155.0_6016x4000 (RGB), NIKOND3200_135.0_6016x4000 (RGB)
Average Ground Sampling Distance (GSD)	undefined
Time for Initial Processing (without report)	38m:18s

Quality Check

Images	median of 36401 keypoints per image	✓
Dataset	377 out of 400 images calibrated (94%), 100 images disabled	⚠
Camera Optimization	2.61% relative difference between initial and optimized internal camera parameters	✓
Matching	median of 17027.3 matches per calibrated image	✓
Georeferencing	no, no 3D GCP	⚠

Calibration Details

Number of Calibrated Images	377 out of 500
Number of Geolocated Images	0 out of 500

Initial Image Positions

The preview is not generated for images without geolocation.

Computed Image/GCPs/Manual Tie Points Positions

The preview is not generated for images without geolocation.

Bundle Block Adjustment Details

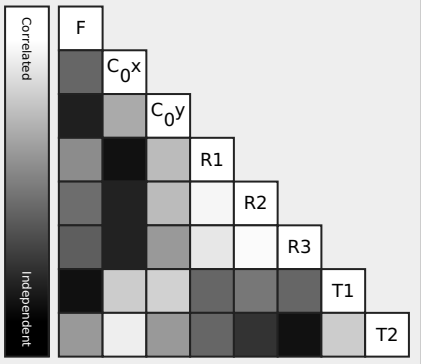
Number of 2D Keypoint Observations for Bundle Block Adjustment	6569669
Number of 3D Points for Bundle Block Adjustment	2123939
Mean Reprojection Error [pixels]	0.160

Internal Camera Parameters

NIKOND3200_29.0_6016x4000 (RGB). Sensor Dimensions: 23.605 [mm] x 15.695 [mm]

EXIF ID: NIKOND3200_29.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	7391.087 [pixel] 29.000 [mm]	3008.000 [pixel] 11.802 [mm]	2000.000 [pixel] 7.847 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	7423.203 [pixel] 29.126 [mm]	2959.839 [pixel] 11.613 [mm]	2052.202 [pixel] 8.052 [mm]	-0.051	-0.011	0.218	0.000	-0.000
Uncertainties (Sigma)	1.297 [pixel] 0.005 [mm]	3.156 [pixel] 0.012 [mm]	2.351 [pixel] 0.009 [mm]	0.004	0.038	0.122	0.000	0.000



The correlation between camera internal parameters determined by the bundle adjustment. White indicates a full correlation between the parameters, ie. any change in one can be fully compensated by the other. Black indicates that the parameter is completely independent, and is not affected by other parameters.

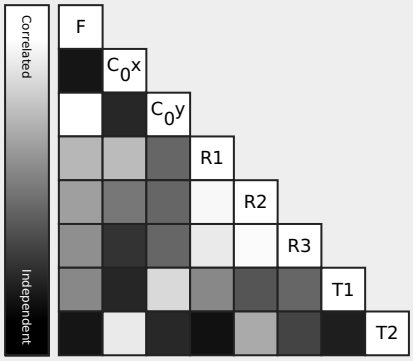
The number of Automatic Tie Points (ATPs) per pixel, averaged over all images of the camera model, is color coded between black and white. White indicates that, on average, more than 16 ATPs have been extracted at the pixel location. Black indicates that, on average, 0 ATPs have been extracted at the pixel location. Click on the image to the see the average direction and magnitude of the re-projection error for each pixel. Note that the vectors are scaled for better visualization. The scale bar indicates the magnitude of 1 pixel error.

Internal Camera Parameters

NIKOND3200_26.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_26.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	6703.543 [pixel] 26.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	6610.251 [pixel] 25.638 [mm]	2987.982 [pixel] 11.589 [mm]	2044.168 [pixel] 7.928 [mm]	-0.056	-0.049	0.183	0.001	0.001
Uncertainties (Sigma)	1.474 [pixel] 0.006 [mm]	3.005 [pixel] 0.012 [mm]	2.346 [pixel] 0.009 [mm]	0.004	0.032	0.073	0.000	0.000



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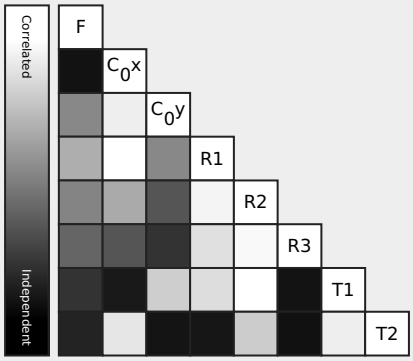
Internal Camera Parameters

NIKOND3200_22.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_22.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	5672.229 [pixel] 22.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	5852.413 [pixel] 22.699 [mm]	2983.239 [pixel] 11.571 [mm]	2041.427 [pixel] 7.918 [mm]	-0.080	0.048	-0.051	0.000	0.001
Uncertainties (Sigma)	1.850 [pixel] 0.007 [mm]	3.564 [pixel] 0.014 [mm]	2.525 [pixel] 0.010 [mm]	0.004	0.026	0.051	0.000	0.000



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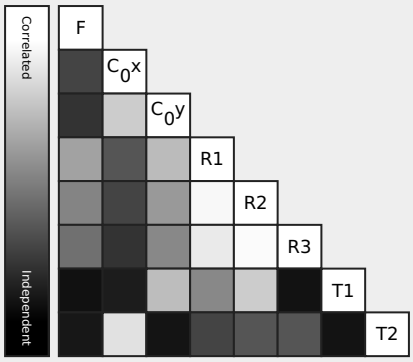
Internal Camera Parameters

NIKOND3200_20.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_20.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	5156.572 [pixel] 20.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	5316.589 [pixel] 20.621 [mm]	2965.485 [pixel] 11.502 [mm]	2047.278 [pixel] 7.940 [mm]	-0.099	0.115	-0.162	-0.000	0.000

Uncertainties (Sigma)	1.323 [pixel] 0.005 [mm]	2.392 [pixel] 0.009 [mm]	1.578 [pixel] 0.006 [mm]	0.003	0.017	0.027	0.000	0.000



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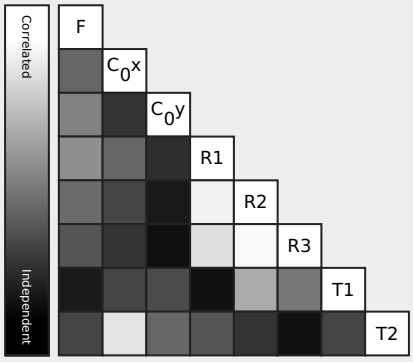
Internal Camera Parameters

NIKOND3200_18.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_18.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	4640.914 [pixel] 18.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	4771.600 [pixel] 18.507 [mm]	2965.743 [pixel] 11.503 [mm]	2035.186 [pixel] 7.894 [mm]	-0.088	0.014	0.005	0.000	0.000
Uncertainties (Sigma)	0.249 [pixel] 0.001 [mm]	0.357 [pixel] 0.001 [mm]	0.362 [pixel] 0.001 [mm]	0.000	0.001	0.001	0.000	0.000



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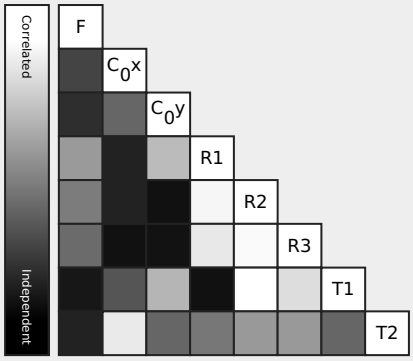
Internal Camera Parameters

NIKOND3200_24.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_24.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	6187.886 [pixel] 24.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	6082.618 [pixel] 23.592 [mm]	2973.852 [pixel] 11.534 [mm]	2026.030 [pixel] 7.858 [mm]	-0.073	0.024	0.006	-0.000	0.000
Uncertainties (Sigma)	0.651 [pixel] 0.003 [mm]	1.466 [pixel] 0.006 [mm]	1.027 [pixel] 0.004 [mm]	0.002	0.011	0.022	0.000	0.000



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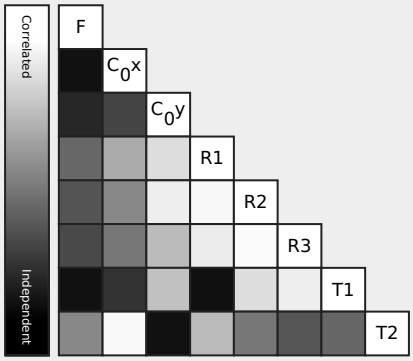
Internal Camera Parameters

NIKOND3200_40.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_40.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	10313.143 [pixel] 40.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	10575.981 [pixel] 41.019 [mm]	2998.607 [pixel] 11.630 [mm]	2101.490 [pixel] 8.151 [mm]	-0.009	0.137	-0.550	0.001	0.001
Uncertainties (Sigma)	2.165 [pixel] 0.008 [mm]	7.479 [pixel] 0.029 [mm]	4.547 [pixel] 0.018 [mm]	0.008	0.177	1.100	0.000	0.000



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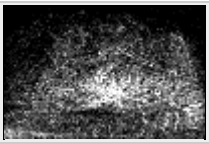

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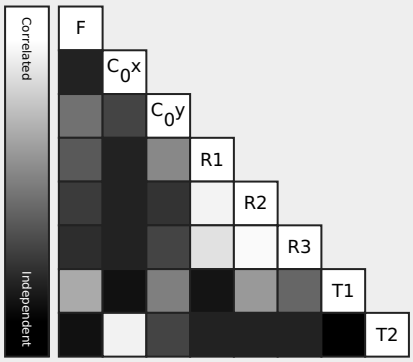
Internal Camera Parameters

NIKOND3200_28.0_6016x4000 (RGB). Sensor Dimensions: 23.100 [mm] x 15.359 [mm]

EXIF ID: NIKOND3200_28.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	7292.121 [pixel] 28.000 [mm]	3008.000 [pixel] 11.550 [mm]	2000.000 [pixel] 7.680 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	7201.948 [pixel] 27.654 [mm]	2973.596 [pixel] 11.418 [mm]	2054.772 [pixel] 7.890 [mm]	-0.054	0.013	0.053	0.000	0.000
Uncertainties (Sigma)	0.344 [pixel] 0.001 [mm]	0.628 [pixel] 0.002 [mm]	0.599 [pixel] 0.002 [mm]	0.000	0.004	0.011	0.000	0.000



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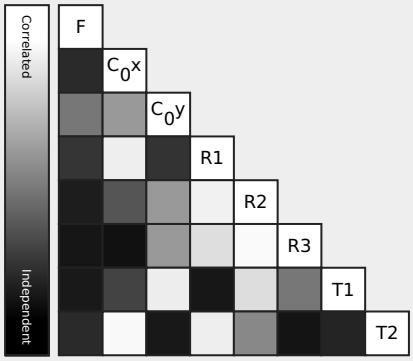
Internal Camera Parameters

NIKOND3200_100.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_100.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	25782.858 [pixel] 100.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	26877.556 [pixel] 104.246 [mm]	2622.477 [pixel] 10.171 [mm]	1992.986 [pixel] 7.730 [mm]	1.699	-2.966	323.483	-0.002	-0.028
Uncertainties (Sigma)	16.171 [pixel] 0.063 [mm]	26.154 [pixel] 0.101 [mm]	27.026 [pixel] 0.105 [mm]	0.076	11.760	536.289	0.002	0.002



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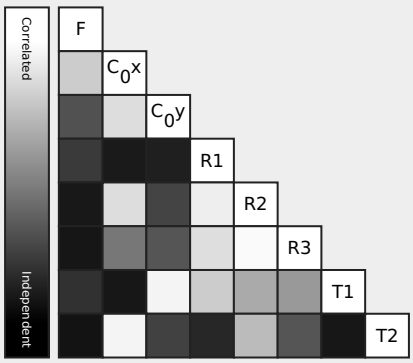
Internal Camera Parameters

NIKOND3200_130.0_6016x4000 (RGB). Sensor Dimensions: 23.333 [mm] x 15.514 [mm]

EXIF ID: NIKOND3200_130.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	33517.715 [pixel] 130.000 [mm]	3008.000 [pixel] 11.667 [mm]	2000.000 [pixel] 7.757 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	34684.158 [pixel] 134.524 [mm]	2617.798 [pixel] 10.153 [mm]	1913.330 [pixel] 7.421 [mm]	2.879	25.093	-1011.867	-0.008	-0.037
Uncertainties (Sigma)	23.550 [pixel] 0.091 [mm]	17.857 [pixel] 0.069 [mm]	25.918 [pixel] 0.101 [mm]	0.073	14.835	897.571	0.002	0.002



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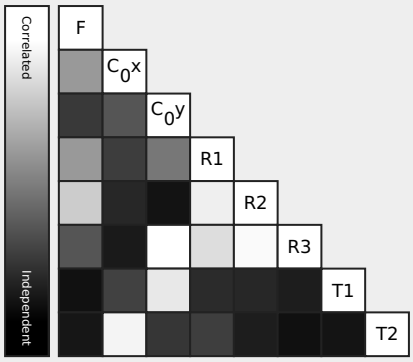
Internal Camera Parameters

NIKOND3200_165.0_6016x4000 (RGB). Sensor Dimensions: 23.381 [mm] x 15.546 [mm]

EXIF ID: NIKOND3200_165.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	42455.776 [pixel] 165.000 [mm]	3008.000 [pixel] 11.690 [mm]	2000.000 [pixel] 7.773 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	43543.072 [pixel] 169.226 [mm]	2493.064 [pixel] 9.689 [mm]	2034.383 [pixel] 7.906 [mm]	4.291	12.972	480.323	0.002	-0.057

Uncertainties (Sigma)	21.135 [pixel] 0.082 [mm]	6.336 [pixel] 0.025 [mm]	7.449 [pixel] 0.029 [mm]	0.031	9.518	866.628	0.001	0.001



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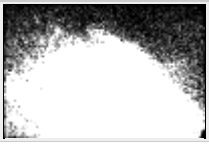

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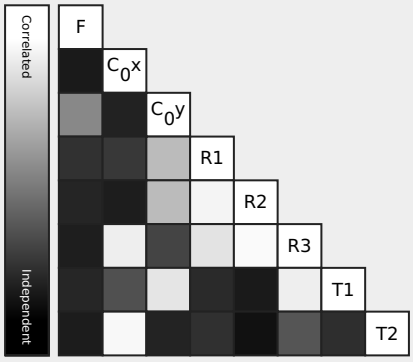
Internal Camera Parameters

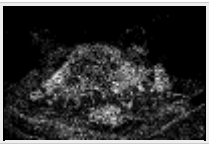
NIKOND3200_185.0_6016x4000 (RGB). Sensor Dimensions: 23.375 [mm] x 15.542 [mm]

EXIF ID: NIKOND3200_185.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	47612.344 [pixel] 185.000 [mm]	3008.000 [pixel] 11.688 [mm]	2000.000 [pixel] 7.771 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	49362.264 [pixel] 191.799 [mm]	2538.256 [pixel] 9.863 [mm]	2141.574 [pixel] 8.321 [mm]	4.933	47.396	2683.344	0.019	-0.055
Uncertainties (Sigma)	48.595 [pixel] 0.189 [mm]	16.555 [pixel] 0.064 [mm]	16.888 [pixel] 0.066 [mm]	0.138	58.340	7216.019	0.002	0.002



The correlation between camera internal parameters determined by the bundle adjustment. White indicates a full correlation between the parameters, ie. any change in one can be fully compensated by the other. Black indicates that the parameter is completely independent, and is not affected by other parameters.



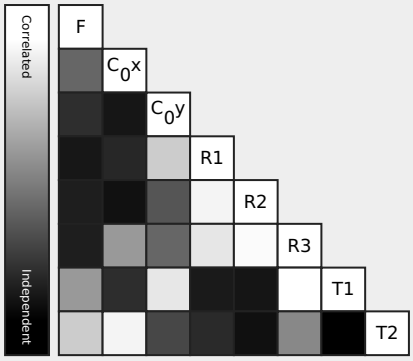
The number of Automatic Tie Points (ATPs) per pixel, averaged over all images of the camera model, is color coded between black and white. White indicates that, on average, more than 16 ATPs have been extracted at the pixel location. Black indicates that, on average, 0 ATPs have been extracted at the pixel location. Click on the image to the see the average direction and magnitude of the re-projection error for each pixel. Note that the vectors are scaled for better visualization. The scale bar indicates the magnitude of 1 pixel error.

Internal Camera Parameters

NIKOND3200_175.0_6016x4000 (RGB). Sensor Dimensions: 23.378 [mm] x 15.544 [mm]

EXIF ID: NIKOND3200_175.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	45034.056 [pixel] 175.000 [mm]	3008.000 [pixel] 11.689 [mm]	2000.000 [pixel] 7.772 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	46275.264 [pixel] 179.823 [mm]	2430.606 [pixel] 9.445 [mm]	1966.234 [pixel] 7.641 [mm]	4.966	-33.700	3423.142	-0.006	-0.066
Uncertainties (Sigma)	22.918 [pixel] 0.089 [mm]	7.214 [pixel] 0.028 [mm]	8.941 [pixel] 0.035 [mm]	0.055	18.362	1856.091	0.001	0.001



The correlation between camera internal parameters determined by the bundle adjustment. White indicates a full correlation between the parameters, ie. any change in one can be fully compensated by the other. Black indicates that the parameter is completely independent, and is not affected by other parameters.

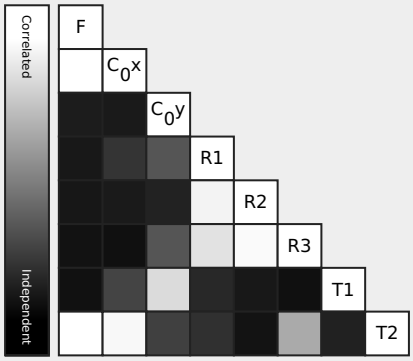
The number of Automatic Tie Points (ATPs) per pixel, averaged over all images of the camera model, is color coded between black and white. White indicates that, on average, more than 16 ATPs have been extracted at the pixel location. Black indicates that, on average, 0 ATPs have been extracted at the pixel location. Click on the image to the see the average direction and magnitude of the re-projection error for each pixel. Note that the vectors are scaled for better visualization. The scale bar indicates the magnitude of 1 pixel error.

Internal Camera Parameters

NIKOND3200_155.0_6016x4000 (RGB). Sensor Dimensions: 23.384 [mm] x 15.548 [mm]

EXIF ID: NIKOND3200_155.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	39877.486 [pixel] 155.000 [mm]	3008.000 [pixel] 11.692 [mm]	2000.000 [pixel] 7.774 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	40434.170 [pixel] 157.164 [mm]	2470.345 [pixel] 9.602 [mm]	2088.117 [pixel] 8.116 [mm]	4.116	-28.686	2944.729	0.009	-0.061
Uncertainties (Sigma)	18.332 [pixel] 0.071 [mm]	7.191 [pixel] 0.028 [mm]	7.152 [pixel] 0.028 [mm]	0.044	12.372	1033.427	0.001	0.001



The correlation between camera internal parameters determined by the bundle adjustment. White indicates a full correlation between the parameters, ie. any change in one can be fully compensated by the other. Black indicates that the parameter is completely independent, and is not affected by other parameters.

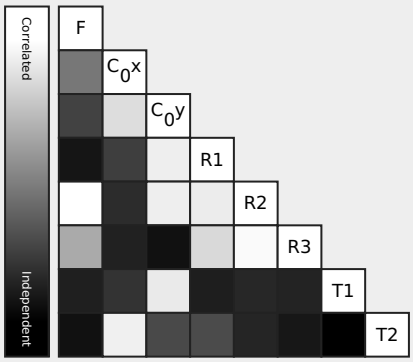
The number of Automatic Tie Points (ATPs) per pixel, averaged over all images of the camera model, is color coded between black and white. White indicates that, on average, more than 16 ATPs have been extracted at the pixel location. Black indicates that, on average, 0 ATPs have been extracted at the pixel location. Click on the image to the see the average direction and magnitude of the re-projection error for each pixel. Note that the vectors are scaled for better visualization. The scale bar indicates the magnitude of 1 pixel error.

Internal Camera Parameters

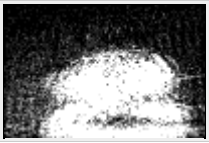
NIKOND3200_135.0_6016x4000 (RGB). Sensor Dimensions: 23.391 [mm] x 15.553 [mm]

EXIF ID: NIKOND3200_135.0_6016x4000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	34720.918 [pixel] 135.000 [mm]	3008.000 [pixel] 11.696 [mm]	2000.000 [pixel] 7.776 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	36358.981 [pixel] 141.369 [mm]	2574.100 [pixel] 10.008 [mm]	2120.299 [pixel] 8.244 [mm]	3.241	32.785	-1267.424	0.008	-0.050
Uncertainties (Sigma)	17.306 [pixel] 0.067 [mm]	7.881 [pixel] 0.031 [mm]	9.830 [pixel] 0.038 [mm]	0.037	8.331	578.499	0.001	0.001



The correlation between camera internal parameters determined by the bundle adjustment. White indicates a full correlation between the parameters, ie. any change in one can be fully compensated by the other. Black indicates that the parameter is completely independent, and is not affected by other parameters.



The number of Automatic Tie Points (ATPs) per pixel, averaged over all images of the camera model, is color coded between black and white. White indicates that, on average, more than 16 ATPs have been extracted at the pixel location. Black indicates that, on average, 0 ATPs have been extracted at the pixel location. Click on the image to the see the average direction and magnitude of the re-projection error for each pixel. Note that the vectors are scaled for better visualization. The scale bar indicates the magnitude of 1 pixel error.

2D Keypoints Table

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	36401	17027
Min	20147	2936
Max	58071	32867
Mean	34948	17426

2D Keypoints Table for Camera NIKOND3200_29.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	41572	19858
Min	27252	8727
Max	44318	26807
Mean	39477	19157

2D Keypoints Table for Camera NIKOND3200_26.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	46131	0
Min	44545	20844
Max	46131	23133
Mean	45338	21989

2D Keypoints Table for Camera NIKOND3200_22.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	38073	0
Min	38073	18119
Max	38073	18119
Mean	38073	18119

2D Keypoints Table for Camera NIKOND3200_20.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	42683	11408
Min	39521	11408
Max	52814	18033
Mean	45006	15687

2D Keypoints Table for Camera NIKOND3200_18.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	41597	20285
Min	23002	4283
Max	58071	32867
Mean	41647	21932

2D Keypoints Table for Camera NIKOND3200_24.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	42234	20605
Min	23188	2936
Max	50036	28365
Mean	39677	19413

2D Keypoints Table for Camera NIKOND3200_40.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	22385	4491
Min	21264	3232
Max	31045	10471
Mean	24017	6625

2D Keypoints Table for Camera NIKOND3200_28.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	35679	18183
Min	20715	5329
Max	53027	27371
Mean	35471	18076

2D Keypoints Table for Camera NIKOND3200_100.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	37535	0
Min	22725	13421
Max	37535	20177
Mean	30130	16799

2D Keypoints Table for Camera NIKOND3200_130.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	25288	14563

Min	22553	6920
Max	28118	16261
Mean	25320	12581

2D Keypoints Table for Camera NIKOND3200_165.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	22456	8274
Min	20308	5902
Max	26354	15042
Mean	22453	9022

2D Keypoints Table for Camera NIKOND3200_185.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	23126	0
Min	22629	7315
Max	23126	11206
Mean	22878	9261

2D Keypoints Table for Camera NIKOND3200_175.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	22378	7937
Min	20211	6031
Max	23030	12110
Mean	22219	8338

2D Keypoints Table for Camera NIKOND3200_155.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	22631	9751
Min	20147	5334
Max	24222	13564
Mean	22493	10024

2D Keypoints Table for Camera NIKOND3200_135.0_6016x4000 (RGB)

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	23211	11191
Min	20364	5912
Max	24443	14844
Mean	22965	11436

Median / 75% / Maximal Number of Matches Between Camera Models

	NIKOND3200_29.0... (RGB)	NIKOND3200_26.0... (RGB)	NIKOND3200_22.0... (RGB)	NIKOND3200_20.0... (RGB)	NIKOND3200_18.0... (RGB)	NIKOND3200_24.0... (RGB)	NIKOND3200_ (RGB)
NIKOND3200_29.0_6016x4000 (RGB)	3311 / 3661 / 20307	817 / 979 / 5691	148 / 154 / 389	19 / 19 / 34	75 / 676 / 6644	11 / 49 / 99	
NIKOND3200_26.0_6016x4000 (RGB)		(n/a) / (n/a) / 11394	1808 / (n/a) / 1808	12 / 12 / 336	32 / 799 / 8784	1 / 2 / 5	
NIKOND3200_22.0_6016x4000 (RGB)				254 / (n/a) / 5992	261 / 1042 / 8412	1 / (n/a) / 3	
NIKOND3200_20.0_6016x4000 (RGB)				521 / (n/a) / 4788	268 / 1422 / 8257	4 / 5 / 75	
NIKOND3200_18.0_6016x4000 (RGB)					97 / 1091 / 20575	78 / 972 / 10329	7 / 23 / 317
NIKOND3200_24.0_6016x4000 (RGB)						272 / 2713 / 15707	12 / 60 / 502
NIKOND3200_40.0_6016x4000 (RGB)							163 / 627 / 33
NIKOND3200_28.0_6016x4000 (RGB)							
NIKOND3200_100.0_6016x4000 (RGB)							
NIKOND3200_130.0_6016x4000 (RGB)							
NIKOND3200_165.0_6016x4000 (RGB)							
NIKOND3200_185.0_6016x4000 (RGB)							
NIKOND3200_175.0_6016x4000 (RGB)							
NIKOND3200_155.0_6016x4000 (RGB)							
NIKOND3200_135.0_6016x4000 (RGB)							

3D Points from 2D Keypoint Matches

	Number of 3D Points Observed
In 2 Images	1299665
In 3 Images	383383
In 4 Images	169594
In 5 Images	90773
In 6 Images	53747
In 7 Images	33938
In 8 Images	22980
In 9 Images	16217
In 10 Images	11618
In 11 Images	8370
In 12 Images	6490
In 13 Images	4957
In 14 Images	3858
In 15 Images	3069
In 16 Images	2382
In 17 Images	1934
In 18 Images	1618

In 19 Images	1236
In 20 Images	1062
In 21 Images	926
In 22 Images	736
In 23 Images	661
In 24 Images	595
In 25 Images	507
In 26 Images	410
In 27 Images	357
In 28 Images	318
In 29 Images	294
In 30 Images	252
In 31 Images	213
In 32 Images	180
In 33 Images	151
In 34 Images	136
In 35 Images	143
In 36 Images	115
In 37 Images	113
In 38 Images	100
In 39 Images	82
In 40 Images	90
In 41 Images	66
In 42 Images	53
In 43 Images	55
In 44 Images	40
In 45 Images	50
In 46 Images	35
In 47 Images	47
In 48 Images	24
In 49 Images	35
In 50 Images	23
In 51 Images	16
In 52 Images	25
In 53 Images	15
In 54 Images	20
In 55 Images	13
In 56 Images	13
In 57 Images	17
In 58 Images	9
In 59 Images	14
In 60 Images	12
In 61 Images	9
In 62 Images	8
In 63 Images	15
In 64 Images	9
In 65 Images	4
In 66 Images	5
In 67 Images	6
In 68 Images	1
In 69 Images	3
In 70 Images	2
In 71 Images	1
In 72 Images	1
In 74 Images	1
In 75 Images	3
In 76 Images	1
In 77 Images	2
In 79 Images	1
In 80 Images	1
In 81 Images	1
In 84 Images	2
In 85 Images	1
In 86 Images	2
In 89 Images	1
In 90 Images	2
In 91 Images	1
In 92 Images	2
In 93 Images	1
In 112 Images	1

2D Keypoint Matches

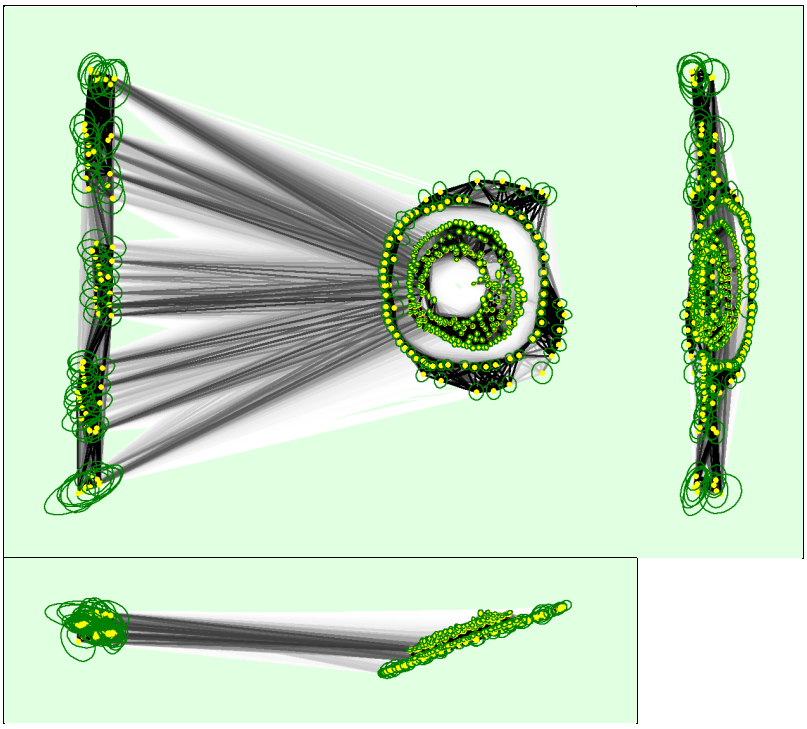


Figure 5: Computed image positions with links between matched images. The darkness of the links indicates the number of matched 2D keypoints between the images. Bright links indicate weak links and require manual tie points or more images. Dark green ellipses indicate the relative camera position uncertainty of the bundle block adjustment result.

Relative camera position and orientation uncertainties

	X [m]	Y [m]	Z [m]	Omega [degree]	Phi [degree]	Kappa [degree]
Mean	0.003	0.003	0.002	0.009	0.004	0.007
Sigma	0.003	0.003	0.002	0.015	0.002	0.009

Initial Processing Details

System Information

Hardware	CPU: Intel(R) Xeon(R) Platinum 8124M CPU @ 3.00GHz RAM: 69GB GPU: no info (Driver: unknown)
Operating System	Linux 4.15.0-1045-aws x86_64

Coordinate Systems

Output Coordinate System	Arbitrary (m)

Processing Options

Detected Template	3D Models
Keypoints Image Scale	Full, Image Scale: 1
Advanced: Matching Image Pairs	Free Flight or Terrestrial
Advanced: Matching Strategy	Use Geometrically Verified Matching: no
Advanced: Keypoint Extraction	Targeted Number of Keypoints: Automatic
Advanced: Calibration	Calibration Method: Standard Internal Parameters Optimization: All External Parameters Optimization: All Rematch: Auto, yes

Point Cloud Densification details

Processing Options

Image Scale	multiscale, 1/2 (Half image size, Default)
Point Density	Optimal
Minimum Number of Matches	3
3D Textured Mesh Generation	yes
3D Textured Mesh Settings:	Resolution: Medium Resolution (default) Color Balancing: no
LOD	Generated: no
Advanced: 3D Textured Mesh Settings	Sample Density Divider: 1
Advanced: Image Groups	group1
Advanced: Use Processing Area	yes
Advanced: Use Annotations	yes
Time for Point Cloud Densification	52m:56s
Time for Point Cloud Classification	NA
Time for 3D Textured Mesh Generation	08m:18s

Results

Number of Generated Tiles	1
Number of 3D Densified Points	27974922
Average Density (per m^3)	5986.96