

Quality Report



Generated with Pix4Dmapper Pro version 3.3.29



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	3D-Chiesa-Rosario
Processed	2017-09-22 10:08:33
Camera Model Name(s)	HERO4Black_3.0_4000x3000 (RGB)
Average Ground Sampling Distance (GSD)	undefined

Quality Check



Images	median of 19049 keypoints per image	
Dataset	76 out of 76 images calibrated (100%), all images enabled	
Camera Optimization	0.04% relative difference between initial and optimized internal camera parameters	
Matching	median of 3991.55 matches per calibrated image	
Georeferencing	no, no 3D GCP	

Calibration Details



Number of Calibrated Images	76 out of 76
Number of Geolocated Images	0 out of 76

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	310235
Number of 3D Points for Bundle Block Adjustment	114869
Mean Reprojection Error [pixels]	0.249

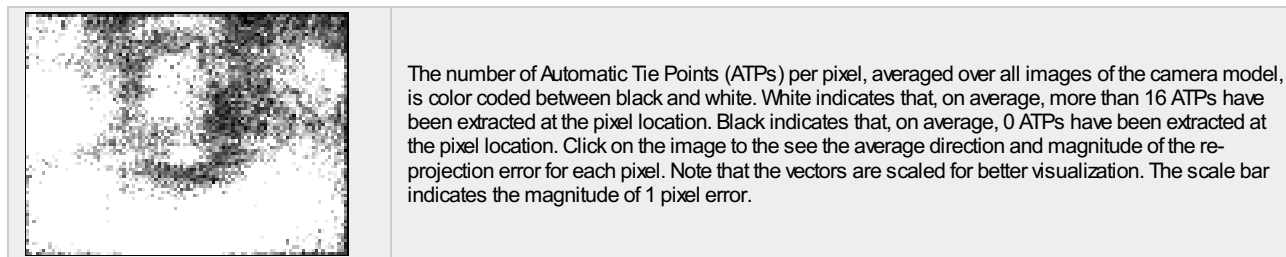
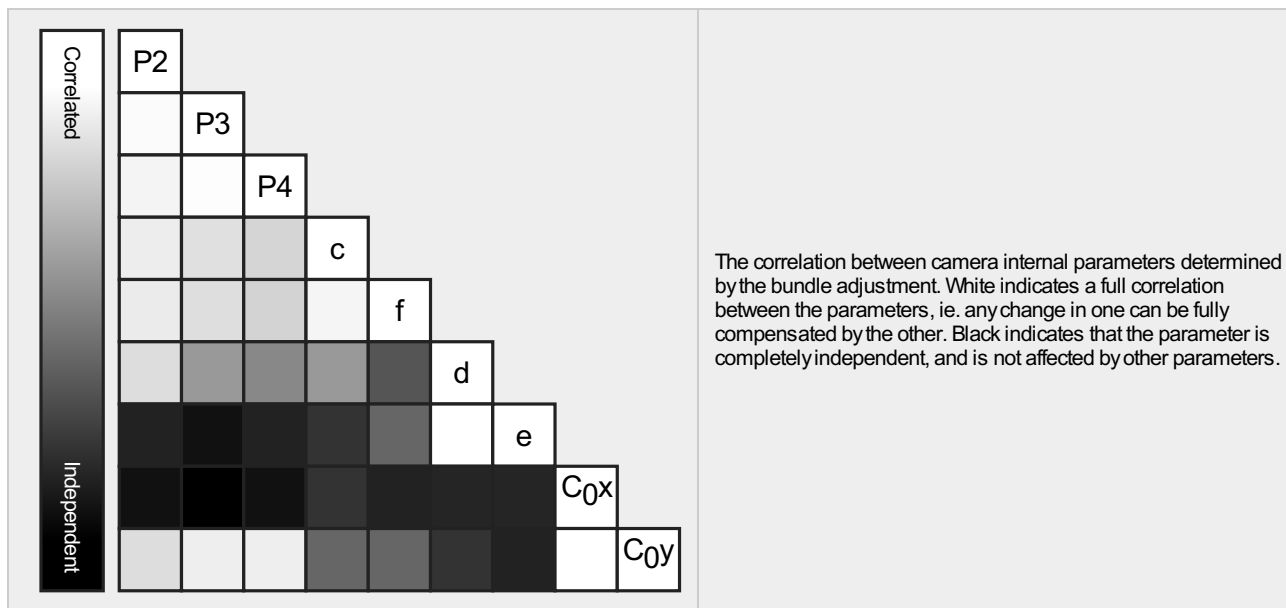
Internal Camera Parameters

HERO4Black_3.0_4000x3000 (RGB). Sensor Dimensions: 6.200 [mm] x 4.650 [mm]



EXIF ID: HERO4Black_3.0_4000x3000

	Poly[0]	Poly[1]	Poly[2]	Poly[3]	Poly[4]	c	d	e	f	Principal Point x	Principal Point y
Initial Values	0.000000	1.000000	-0.042988	0.226015	-0.048636	2745.00	0.00	0.00	2745.00	2000.00	1500.00
Optimized Values	0.000000	1.000000	-0.051282	0.249231	-0.063209	2773.14	7.49	-8.11	2773.73	1988.86	1456.39
Uncertainties (Sigma)			0.000845	0.001668	0.001086	0.40	0.05	0.05	0.41	0.17	0.16



2D Keypoints Table



	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	19049	3992
Min	15954	1932
Max	20338	5316
Mean	18917	4082

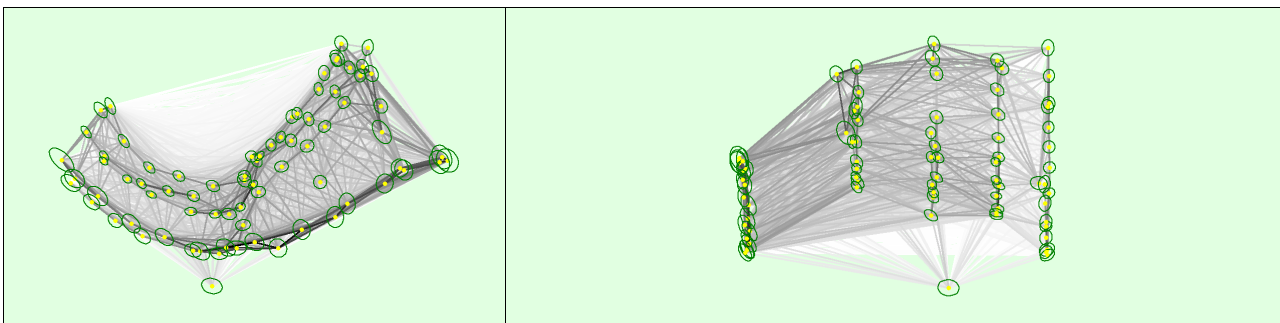
3D Points from 2D Keypoint Matches



	Number of 3D Points Observed
In 2 Images	84656
In 3 Images	15680
In 4 Images	5712
In 5 Images	2964
In 6 Images	1717
In 7 Images	1018
In 8 Images	738
In 9 Images	509
In 10 Images	378
In 11 Images	277
In 12 Images	206
In 13 Images	171
In 14 Images	139
In 15 Images	111
In 16 Images	95
In 17 Images	82

In 18 Images	55
In 19 Images	54
In 20 Images	48
In 21 Images	28
In 22 Images	30
In 23 Images	29
In 24 Images	21
In 25 Images	20
In 26 Images	11
In 27 Images	15
In 28 Images	17
In 29 Images	9
In 30 Images	6
In 31 Images	6
In 32 Images	9
In 33 Images	4
In 34 Images	3
In 35 Images	4
In 36 Images	11
In 37 Images	2
In 38 Images	6
In 39 Images	5
In 40 Images	4
In 41 Images	4
In 42 Images	3
In 43 Images	5
In 44 Images	1
In 45 Images	2
In 47 Images	1
In 48 Images	1
In 51 Images	1
In 66 Images	1

? 2D Keypoint Matches



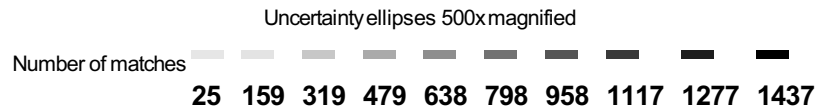
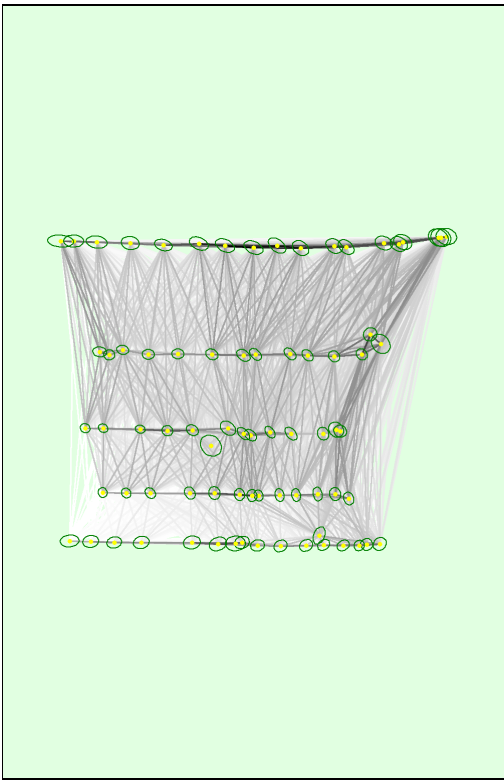


Figure 5: Computed image positions with links between matched images. The darkness of the links indicates the number of matched 2D keypoints between the images. Bright links indicate weak links and require manual tie points or more images. Dark green ellipses indicate the relative camera position uncertainty 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	0.000	0.000	0.000	0.008	0.004	0.007
Sigma	0.000	0.000	0.000	0.004	0.001	0.007

Manual Tie Points

MTP Name	Projection Error [pixel]	Verified/Marked
mtp1	1.304	3 / 3
mtp2	0.786	3 / 3
mtp3	0.126	4 / 4
mtp4	0.839	4 / 4

Projection errors for manual tie points. The last column counts the number of images where the manual tie point has been automatically verified v.s. manually marked.

Geolocation Details

Scale Constraints

Scale Name	Initial Length [m]	Initial Length Accuracy [m]	Computed Length [m]	Computed Length Error [m]	GCP/MTP Label 1	GCP/MTP Label 2
Scale 1	3.143	0.001	3.143	-0.000	mtp3(4)	mtp4(4)

Scale constraints errors.

Orientation Constraints

Orientation Name	Axis	Angular Accuracy [degree]	Computed Angular Error [degree]	GCP/MTP Label 1	GCP/MTP Label 2
Orientation 1	Axis-Z	0.001	0.001	mtp1(3)	mtp2(3)

Orientation constraints errors.

Initial Processing Details

System Information

Hardware	CPU: Intel(R) Core(TM) i7-4790K CPU @4.00GHz RAM: 16GB GPU: NMDIA GeForce GTX980 (Driver: 21.21.13.7563)
Operating System	Windows 10 Home, 64-bit

Coordinate Systems

Output Coordinate System	Arbitrary (m)
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Processing Options

Detected Template	Modelli 3D
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	36m:15s
Time for 3D Textured Mesh Generation	03m:48s

Results

Number of Generated Tiles	1
Number of 3D Densified Points	3322067
Average Density (per m ³)	89585.4