

Quality Report



Generated with Pix4Dmapper version 4.3.31



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	cv_proj3
Processed	2020-01-08 13:19:47
Camera Model Name(s)	HERO6Black_3.0_4000x3000 (RGB)
Average Ground Sampling Distance (GSD)	undefined
Time for Initial Processing (without report)	01m:12s

Quality Check



Images	median of 25166 keypoints per image	
Dataset	65 out of 100 images calibrated (65%), all images enabled	
Camera Optimization	9.75% relative difference between initial and optimized internal camera parameters	
Matching	median of 1661.2 matches per calibrated image	
Georeferencing	no, no 3D GCP	

Calibration Details



Number of Calibrated Images	65 out of 100
Number of Geolocated Images	0 out of 100



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	110852
Number of 3D Points for Bundle Block Adjustment	49941
Mean Reprojection Error [pixels]	0.230



Internal Camera Parameters

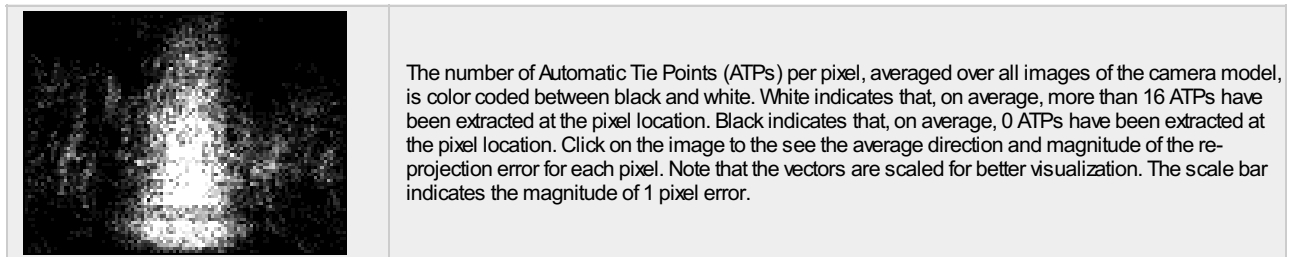
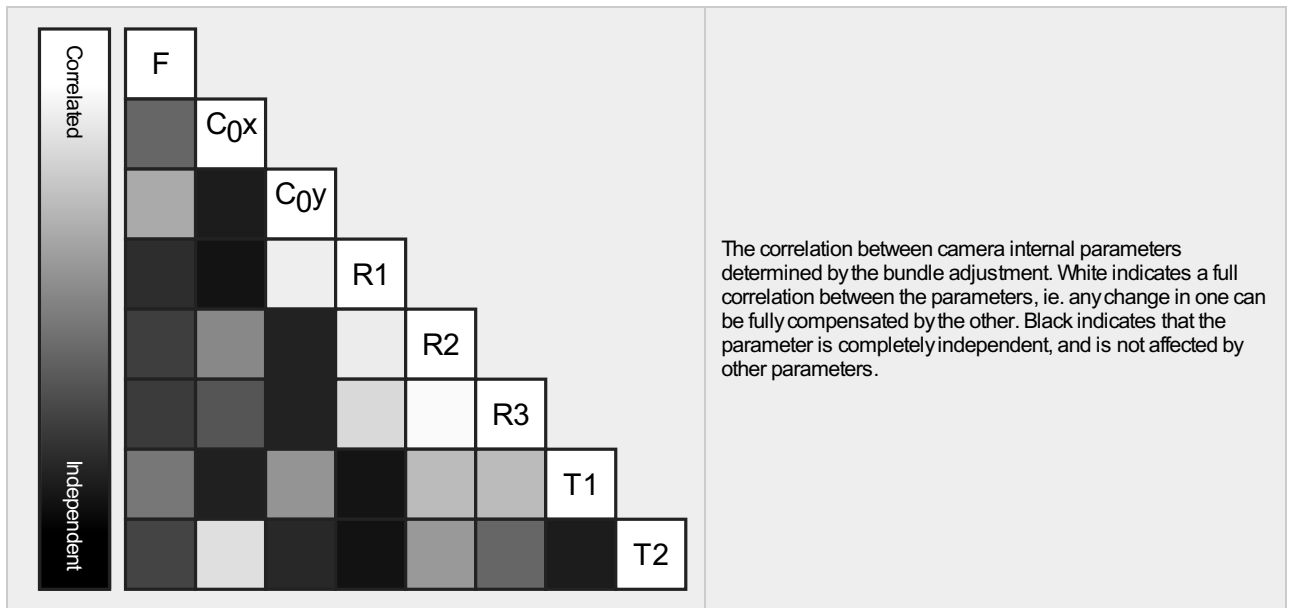


HERO6Black_3.0_4000x3000 (RGB). Sensor Dimensions: 7.000 [mm] x 5.250 [mm]



EXIF ID: HERO6Black_3.0_4000x3000

	Focal Length	Principal Point x	Principal Point y	R1	R2	R3	T1	T2
Initial Values	1714.286 [pixel] 3.000 [mm]	2000.000 [pixel] 3.500 [mm]	1500.000 [pixel] 2.625 [mm]	0.000	0.000	0.000	0.000	0.000
Optimized Values	1881.461 [pixel] 3.293 [mm]	1997.433 [pixel] 3.496 [mm]	1512.356 [pixel] 2.647 [mm]	-0.007	0.005	-0.002	0.002	-0.001
Uncertainties (Sigma)	0.945 [pixel] 0.002 [mm]	0.482 [pixel] 0.001 [mm]	0.659 [pixel] 0.001 [mm]	0.001	0.001	0.000	0.000	0.000



2D Keypoints Table

	Number of 2D Keypoints per Image	Number of Matched 2D Keypoints per Image
Median	25166	1661
Mn	20540	92
Max	34451	4896
Mean	25743	1705

3D Points from 2D Keypoint Matches

	Number of 3D Points Observed
In 2 Images	42621
In 3 Images	5058
In 4 Images	1443
In 5 Images	493
In 6 Images	199
In 7 Images	80
In 8 Images	27
In 9 Images	6
In 10 Images	3
In 11 Images	2
In 12 Images	5
In 13 Images	1
In 15 Images	2
In 20 Images	1

2D Keypoint Matches

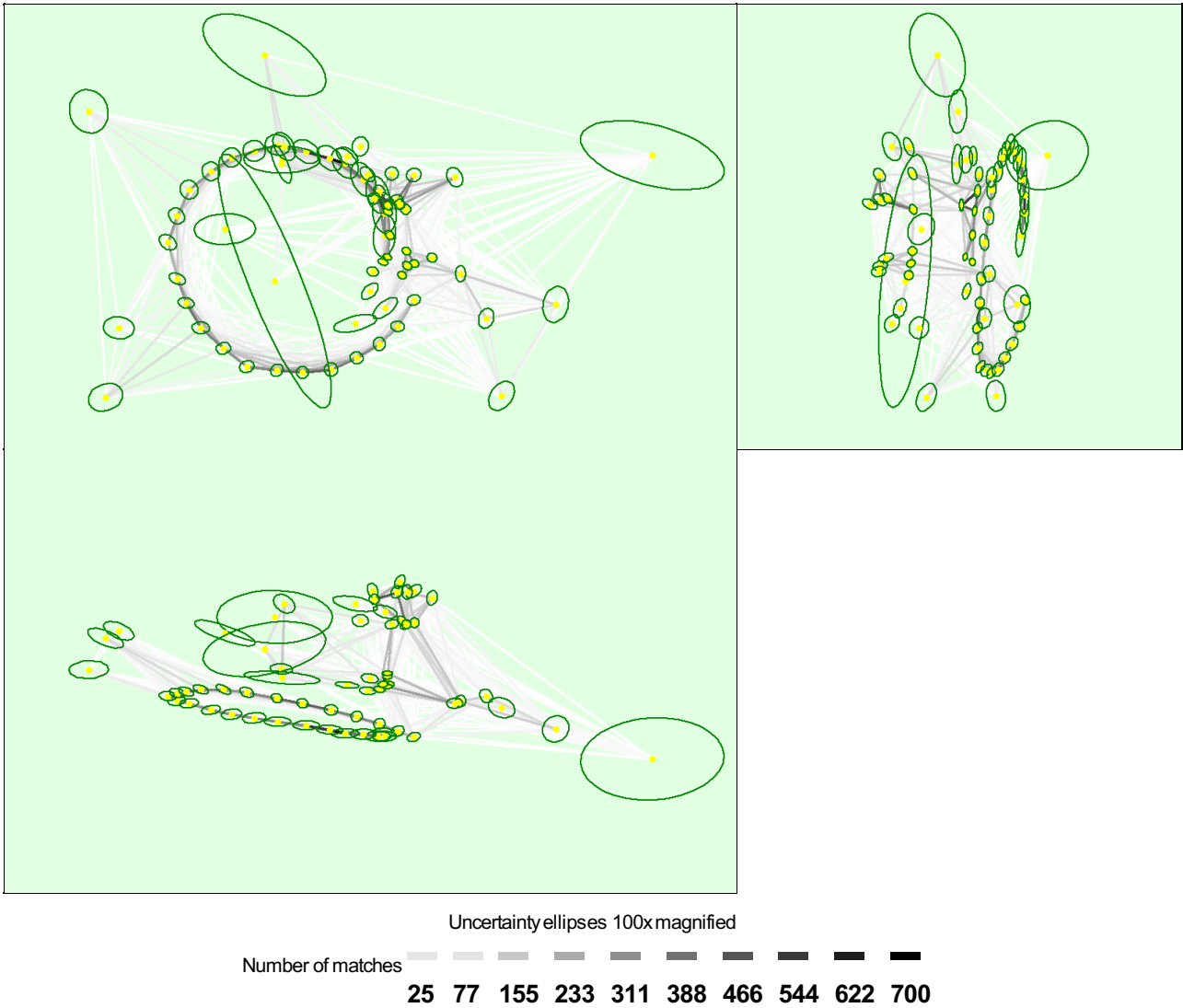


Figure 5: Computed image positions with links between matched images. The darkness of the links indicates the number of matched 2D keypoints between the images. Bright links indicate weak links and require manual tie points or more images. Dark green ellipses indicate the relative camera position uncertainty 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	0.062	0.061	0.035	0.074	0.048	0.074
Sigma	0.065	0.082	0.031	0.044	0.022	0.122

Initial Processing Details



System Information



Hardware	CPU: Intel(R) Core(TM) i7-7700 CPU @ 3.60GHz RAM: 64GB GPU: NVIDIA GeForce GTX 1060 6GB (Driver: 26.21.14.3200)
Operating System	Windows 10 Education, 64-bit

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	02m:27s
Time for Point Cloud Classification	NA
Time for 3D Textured Mesh Generation	01m:31s

Results



Number of Generated Tiles	1
Number of 3D Densified Points	1188259
Average Density (per m ³)	95.47