Picea_abies_5F

Processing Report

07 November 2018

Survey Data

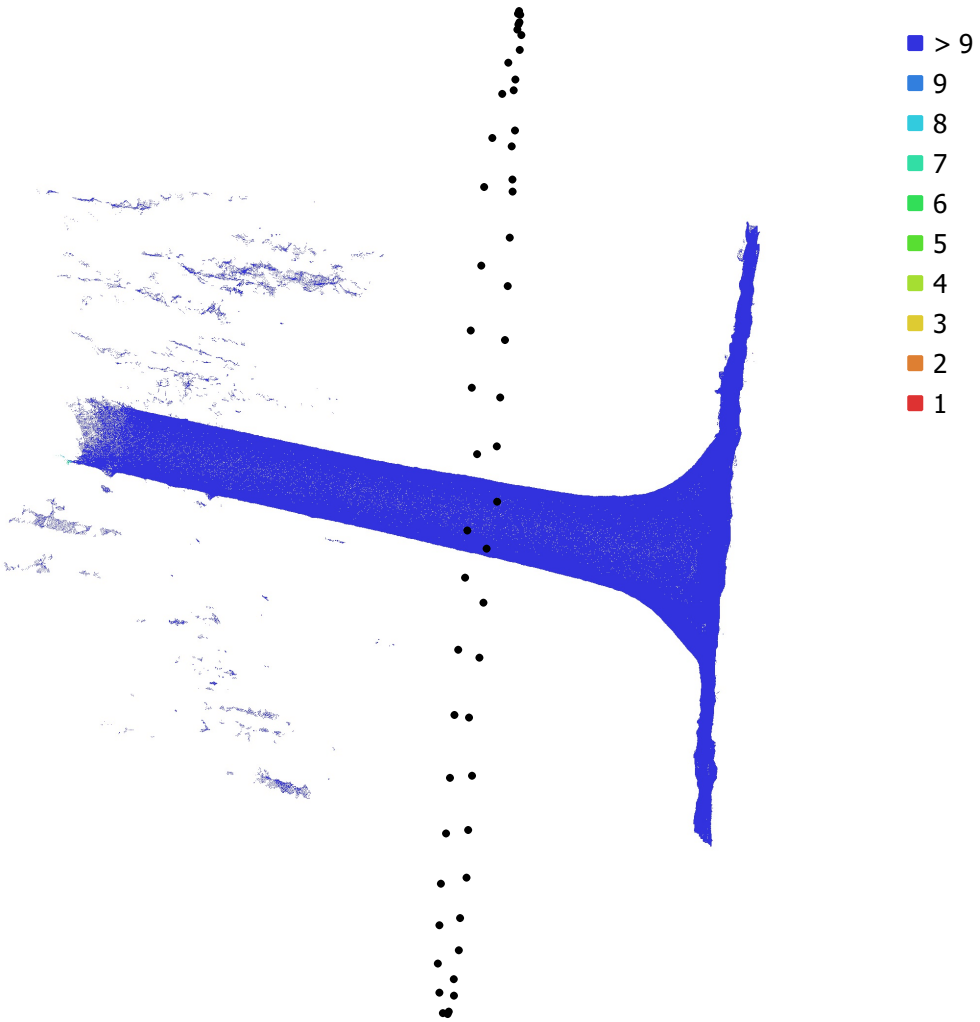

Fig. 1. Camera locations and image overlap.

Number of images:	52	Camera stations:	52
		Tie points:	62,082
		Projections:	183,983
		Reprojection error:	0.428 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
Canon EOS 70D (15 mm)	5472 x 3648	15 mm	4.17 x 4.17 µm	No

Table 1. Cameras.

Camera Calibration

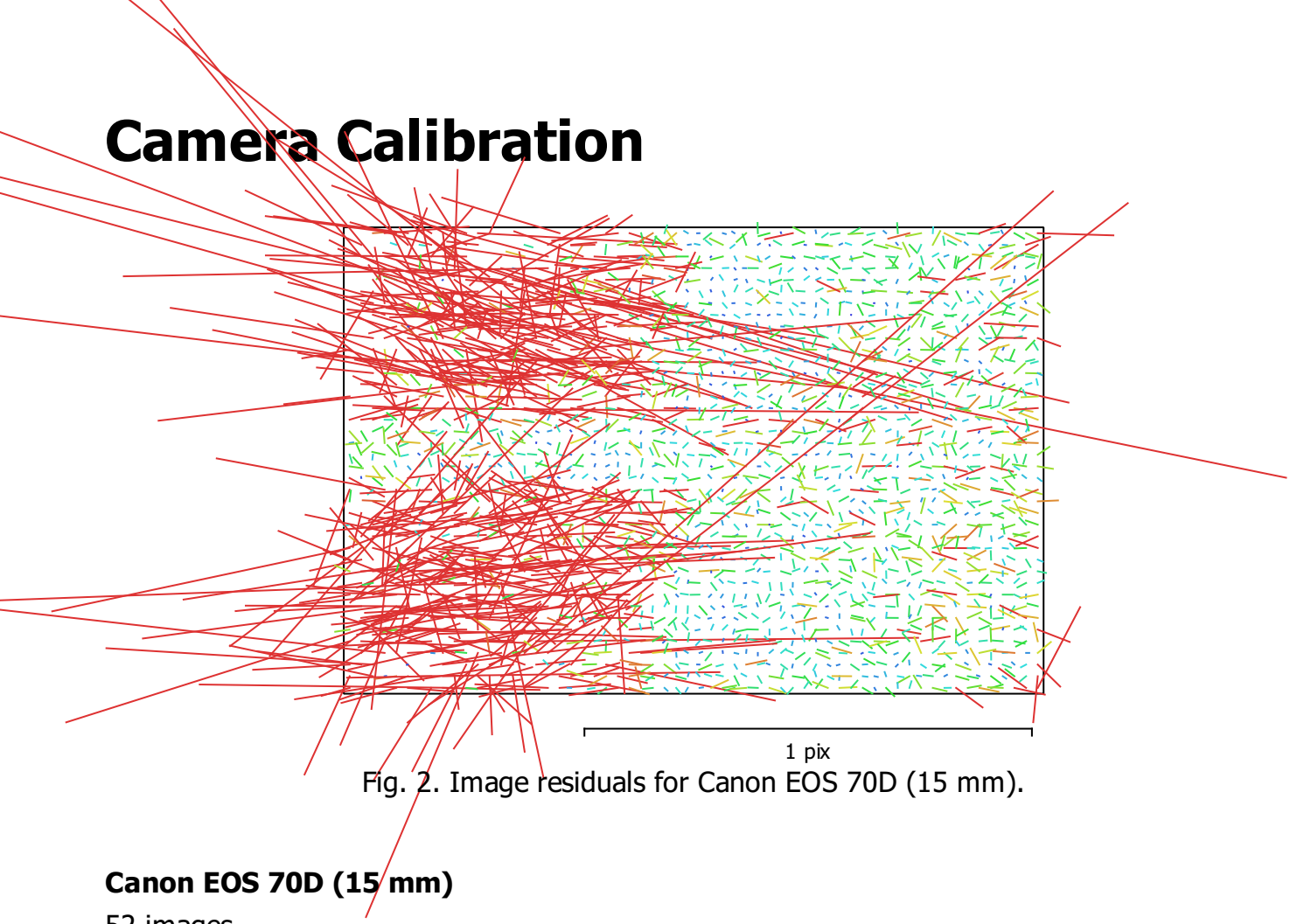

Fig. 2. Image residuals for Canon EOS 70D (15 mm).

Canon EOS 70D (15 mm)

52 images

Type	Resolution	Focal Length	Pixel Size
Fisheye	**5472 x 3648**	**15 mm**	**4.17 x 4.17 µm**

	Value	Error	F	Cx	Cy	B1	K1	K2	P1	P2
F	**3750.46**	0.15	1.00	-0.72	0.05	-0.15	-0.54	0.34	0.40	0.02
Cx	**18.9701**	0.29		1.00	-0.01	0.43	0.20	-0.06	-0.83	-0.00
Cy	**-51.8476**	0.17			1.00	0.04	-0.03	0.01	-0.04	0.08
B1	**0.323086**	0.14				1.00	0.15	-0.14	-0.40	0.14
K1	**-0.0372874**	5.5e-05					1.00	-0.87	-0.10	-0.01
K2	**0.00351887**	6.5e-05						1.00	-0.02	-0.05
P1	**4.50821e-05**	1.7e-05							1.00	-0.01
P2	**-7.71401e-05**	4e-06								1.00

Table 2. Calibration coefficients and correlation matrix.

Digital Elevation Model

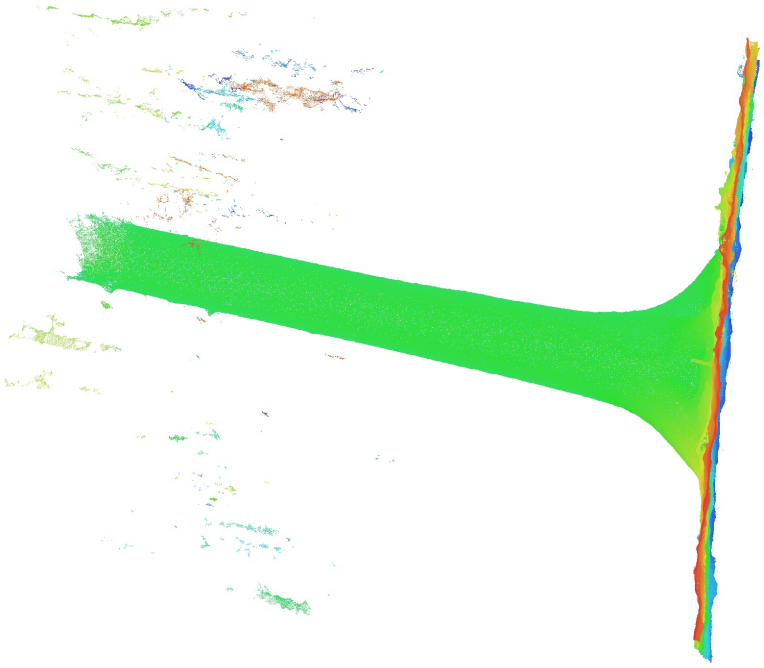

Fig. 3. Reconstructed digital elevation model.

Processing Parameters

General	
Cameras	52
Aligned cameras	52
Markers	32
Scale bars	9
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	62,082 of 67,456
RMS reprojection error	0.0913541 (0.428024 pix)
Max reprojection error	0.276036 (22.6871 pix)
Mean key point size	3.6328 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.17238
Alignment parameters	
Accuracy	High
Generic preselection	Yes
Key point limit	40,000
Tie point limit	4,000
Adaptive camera model fitting	Yes
Matching time	10 minutes 7 seconds
Alignment time	28 seconds
Depth Maps	
Count	52
Reconstruction parameters	
Quality	Medium
Filtering mode	Aggressive
Processing time	2 hours 9 minutes
Dense Point Cloud	
Points	2,726,797
Point colors	3 bands, uint8
Reconstruction parameters	
Quality	Medium
Depth filtering	Aggressive
Depth maps generation time	2 hours 9 minutes
Dense cloud generation time	36 minutes 28 seconds
Software	
Version	1.4.4 build 6848
Platform	Windows 64