Agisoft Metashape

Processing Report

24 June 2024

Survey Data

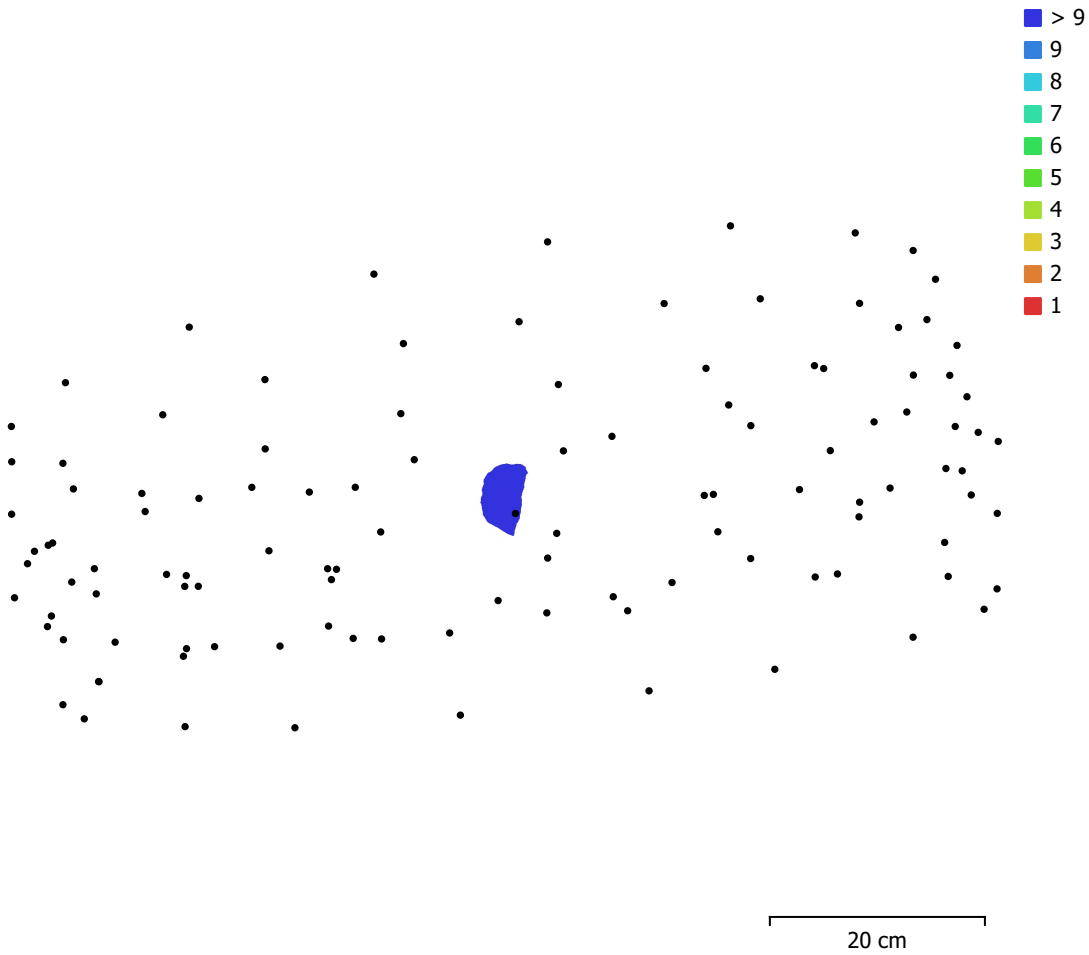

Fig. 1. Camera locations and image overlap.

Number of images:	114	Camera stations:	114
Flying altitude:	43.5 cm	Tie points:	92,011
Ground resolution:	0.044 mm/pix	Projections:	321,937
Coverage area:	21 cm²	Reprojection error:	0.768 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
DMC-G7 (36mm)	4592 x 2584	36 mm	3.79 x 3.79 µm	No
DMC-G7 (36mm)	4592 x 2584	36 mm	3.79 x 3.79 µm	No

Table 1. Cameras.

Camera Calibration

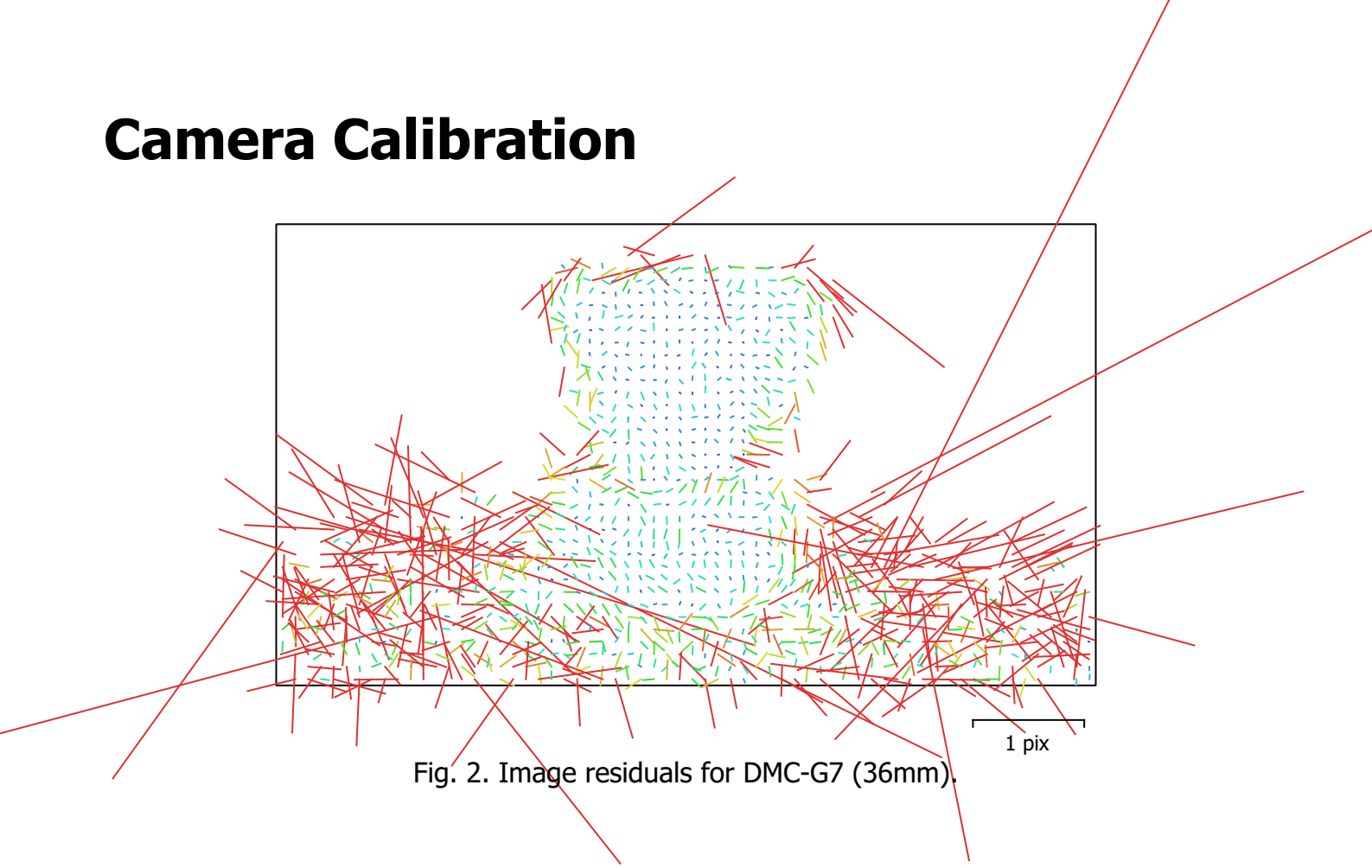

Fig. 2. Image residuals for DMC-G7 (36mm).

DMC-G7 (36mm)

60 images

Type	Resolution	Focal Length	Pixel Size
Frame	**4592 x 2584**	**36 mm**	**3.79 x 3.79 µm**

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	**9884.12**	3.3	1.00	0.25	-0.44	-0.44	0.32	-0.20	0.22	-0.21
Cx	**116.439**	8.2		1.00	-0.23	0.08	-0.11	0.18	0.98	-0.15
Cy	**-212.536**	13			1.00	0.01	-0.07	0.06	-0.15	0.82
K1	**0.074965**	0.0056				1.00	-0.87	0.76	0.08	-0.09
K2	**-0.342589**	0.18					1.00	-0.97	-0.10	-0.05
K3	**-1.769**	1.5						1.00	0.18	0.05
P1	**0.00533619**	0.00031							1.00	-0.12
P2	**-0.0040053**	0.00036								1.00

Table 2. Calibration coefficients and correlation matrix.

Camera Calibration

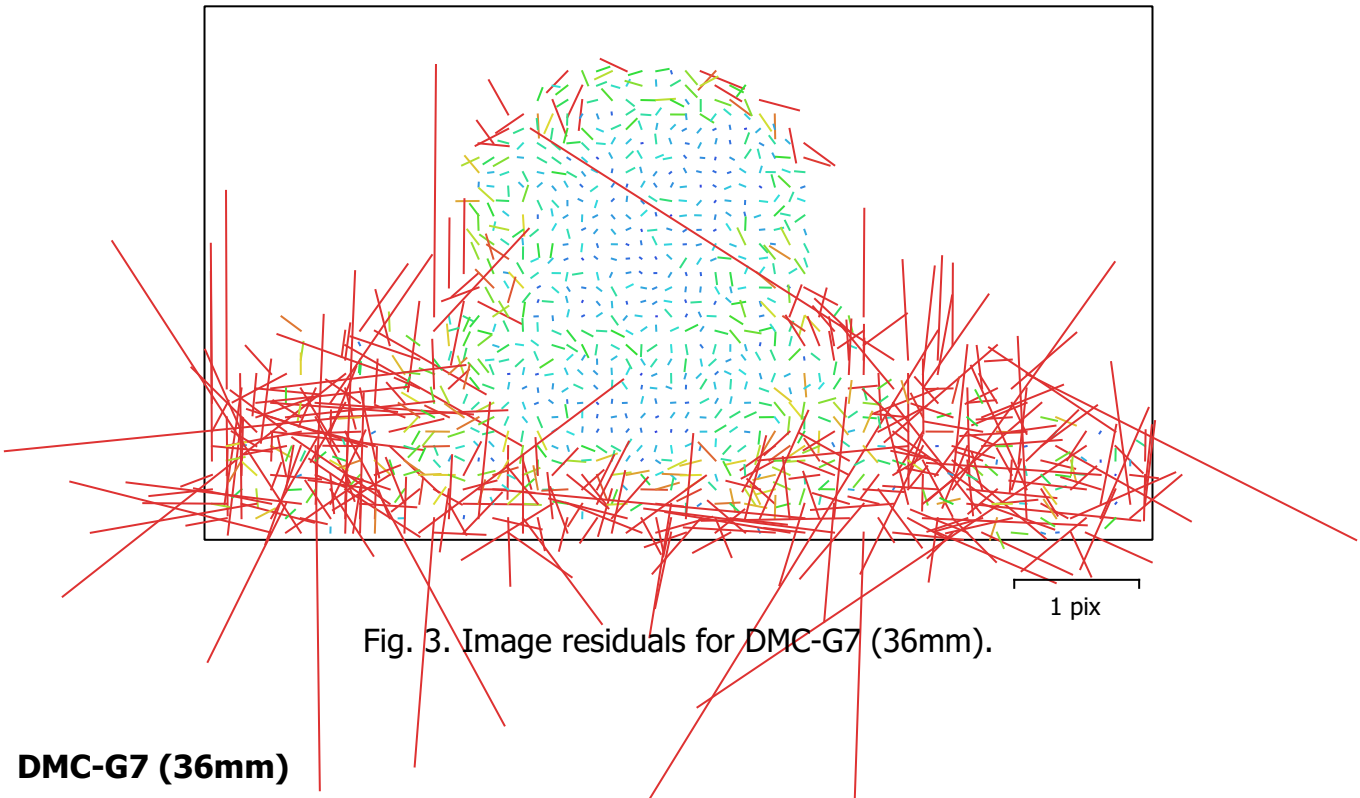

Fig. 3. Image residuals for DMC-G7 (36mm).

DMC-G7 (36mm)

54 images

Type	Resolution	Focal Length	Pixel Size
Frame	**4592 x 2584**	**36 mm**	**3.79 x 3.79 µm**

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
F	**9895.38**	3.8	1.00	0.00	-0.47	-0.31	0.20	-0.12	-0.01	-0.25
Cx	**-298.58**	8.6		1.00	-0.45	-0.29	0.34	-0.33	0.98	-0.43
Cy	**-446.997**	12			1.00	0.23	-0.15	0.08	-0.48	0.82
K1	**0.0440126**	0.0046				1.00	-0.85	0.75	-0.26	-0.06
K2	**1.20624**	0.14					1.00	-0.97	0.29	-0.06
K3	**-12.561**	1.2						1.00	-0.29	0.04
P1	**-0.00922845**	0.00032							1.00	-0.45
P2	**-0.0208224**	0.00039								1.00

Table 3. Calibration coefficients and correlation matrix.

Ground Control Points

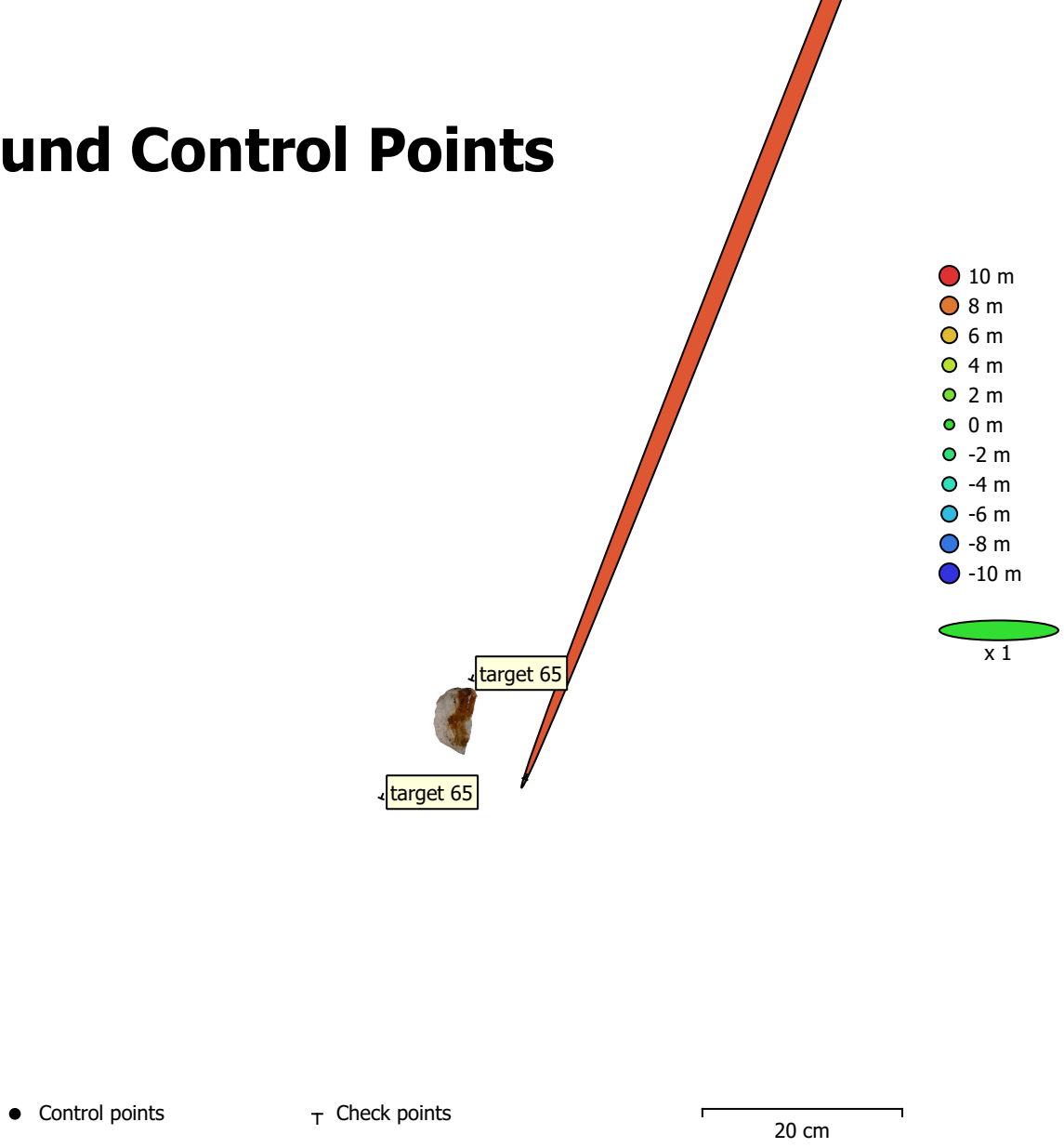

Fig. 4. GCP locations and error estimates.
Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.
Estimated GCP locations are marked with a dot or crossing.

Count	X error (m)	Y error (m)	Z error (m)	XY error (m)	Total (m)
1	0.498182	1.26662	8.96877	1.36107	9.07146

Table 4. Check points RMSE.

Label	X error (m)	Y error (m)	Z error (m)	Total (m)	Image (pix)
point 1	-0.498182	-1.26662	8.96877	9.07146	0.001 (47)
target 65					0.298 (3)
target 65					0.748 (4)
Total	**0.498182**	**1.26662**	**8.96877**	**9.07146**	**0.001**

Table 5. Check points.

Scale Bars

Label	Distance (m)	Error (m)
target 65_point 1	0.15	-2.77556e-17
Total		**2.77556e-17**

Table 6. Control scale bars.

Digital Elevation Model

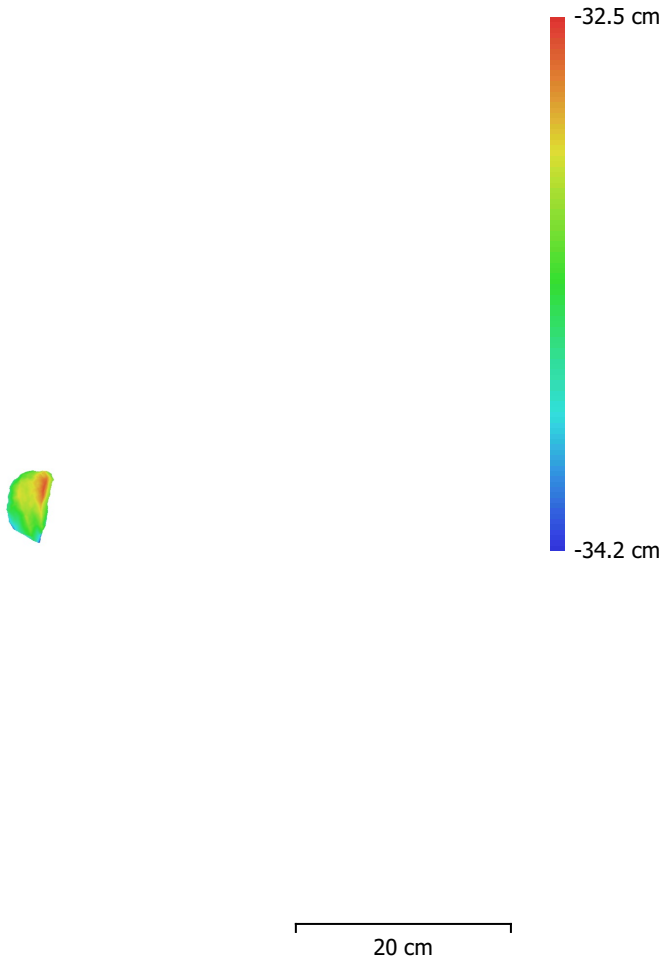

Fig. 5. Reconstructed digital elevation model.

Resolution:	0.116 mm/pix
Point density:	74.9 points/mm²

Processing Parameters

General	
Cameras	114
Aligned cameras	114
Markers	3
Scale bars	1
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll
Point Cloud	
Points	92,011 of 113,926
RMS reprojection error	0.231356 (0.767596 pix)
Max reprojection error	0.709716 (18.5998 pix)
Mean key point size	3.1547 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	3.94834
File size	9.31 MB
Depth Maps	
Count	114
Depth maps generation parameters	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	6 minutes 50 seconds
Memory usage	5.06 GB
Date created	2024:05:24 14:25:50
Software version	1.8.4.14671
File size	106.13 MB
Model	
Faces	542,098
Vertices	271,051
Vertex colors	3 bands, uint8
Texture	16,000 x 16,000 x 2, 4 bands, uint8
Texturing parameters	
Mapping mode	Generic
Blending mode	Mosaic
Texture size	16,000
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	53 seconds
UV mapping memory usage	791.30 MB
Blending time	1 minutes 18 seconds
Blending memory usage	13.99 GB
Blending GPU memory usage	11.92 GB
File size	183.06 MB
System	
Software name	Agisoft Metashape Professional
Software version	1.8.4 build 14671
OS	Windows 64 bit
RAM	127.71 GB
CPU	Intel(R) Core(TM) i9-10940X CPU @ 3.30GHz

GPU(s)	Quadro RTX 5000