

# Focus Stacking - Metoda C

Protokol  
27 May 2024



# Survey Data

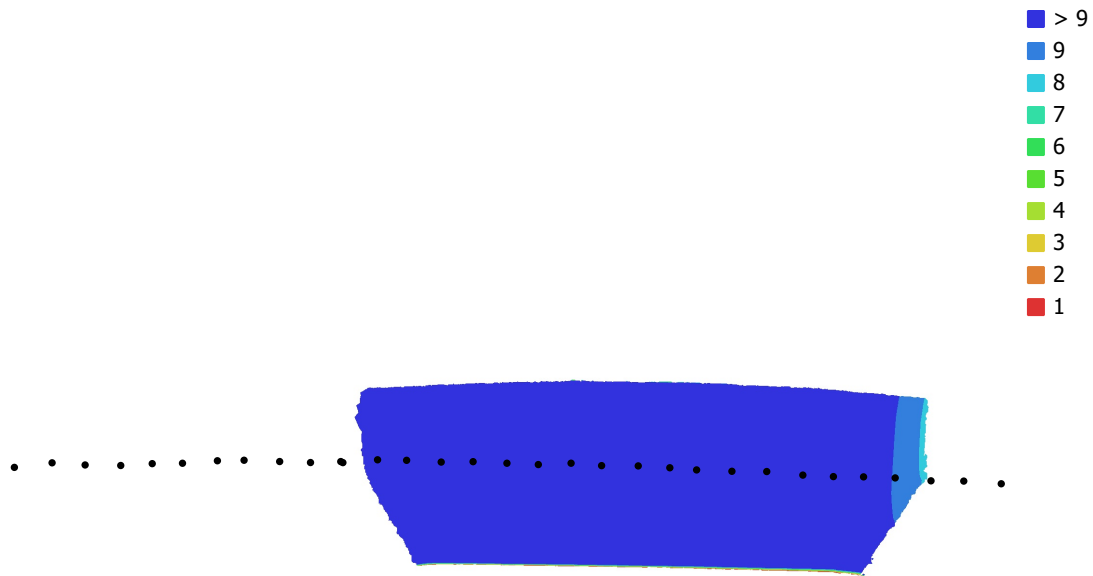


Fig. 1. Camera locations and image overlap.

Number of images: 32

Camera stations: 32

Tie points: 318,453

Projections: 1,538,422

Reprojection error: 0.44 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
NIKON Z 50 (40mm)	5566 x 3710	40 mm	unknown	No

Table 1. Cameras.

# Camera Calibration

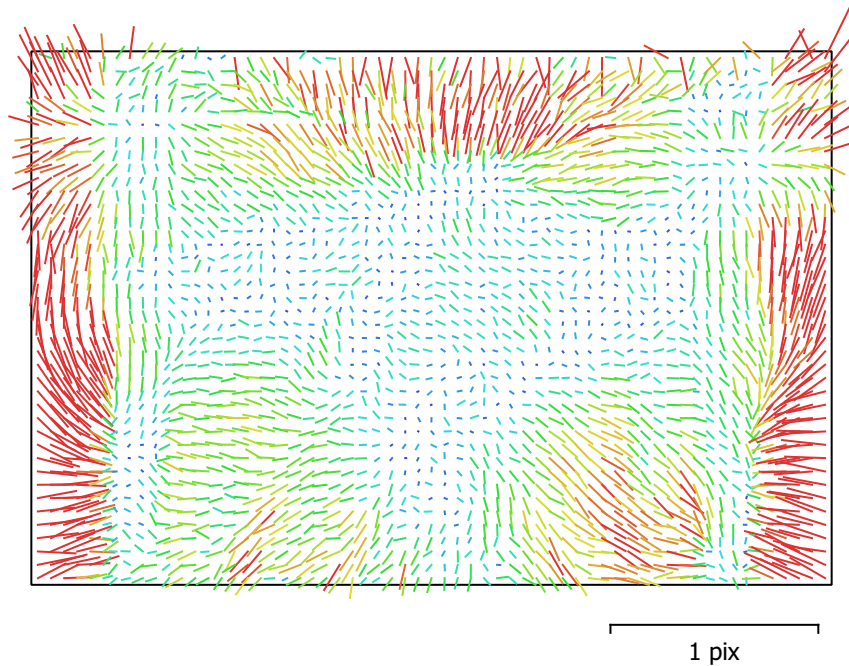


Fig. 2. Image residuals for NIKON Z 50 (40mm).

## NIKON Z 50 (40mm)

32 images

Type	Resolution	Focal Length	Pixel Size
<b>Frame</b>	<b>5566 x 3710</b>	<b>40 mm</b>	<b>unknown</b>

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
<b>F</b>	<b>22776</b>	73	1.00	-0.03	-0.59	0.77	0.03	-0.02	-0.09	-0.46
<b>Cx</b>	<b>-70.2196</b>	20		1.00	0.09	-0.03	-0.04	0.08	0.91	0.09
<b>Cy</b>	<b>-259.426</b>	33			1.00	-0.38	-0.01	0.06	0.09	0.90
<b>K1</b>	<b>0.250276</b>	0.0012				1.00	-0.26	0.22	-0.07	-0.45
<b>K2</b>	<b>0.128031</b>	0.044					1.00	-0.98	-0.04	-0.03
<b>K3</b>	<b>-0.367704</b>	1.4						1.00	0.08	0.10
<b>P1</b>	<b>-0.00057625</b>	0.00038							1.00	0.10
<b>P2</b>	<b>-0.0116167</b>	0.0005								1.00

Table 2. Calibration coefficients and correlation matrix.

# Digital Elevation Model

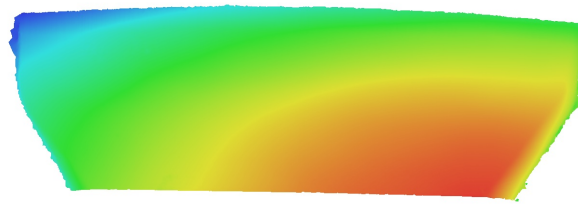


Fig. 3. Reconstructed digital elevation model.

# Processing Parameters

## General

Cameras	32
Aligned cameras	32
Coordinate system	Local Coordinates (m)
Rotation angles	Yaw, Pitch, Roll

## Tie Points

Points	318,453 of 348,326
RMS reprojection error	0.149104 (0.440068 pix)
Max reprojection error	0.448692 (16.8078 pix)
Mean key point size	3.27216 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	5.00367

## Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	No
Key point limit	100,000
Key point limit per Mpx	1,000
Tie point limit	0
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	1 minutes 33 seconds
Matching memory usage	450.47 MB
Alignment time	6 minutes 34 seconds
Alignment memory usage	1.22 GB
Date created	2024:05:10 20:03:18
Software version	2.1.0.17532
File size	34.88 MB

## Depth Maps

Count	32
<b>Depth maps generation parameters</b>	
Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	5 minutes 31 seconds
Memory usage	2.42 GB
Date created	2024:05:10 20:40:02
Software version	2.1.0.17532
File size	148.85 MB

## Point Cloud

Points	11,671,610
<b>Point attributes</b>	
Color	3 bands, uint8
Normal	
<b>Point classes</b>	
Created (never classified)	11,671,610
<b>Depth maps generation parameters</b>	
Quality	High

Filtering mode	Mild
Max neighbors	16
Processing time	5 minutes 31 seconds
Memory usage	2.42 GB
<b>Point cloud generation parameters</b>	
Processing time	1 minutes 34 seconds
Memory usage	2.53 GB
Date created	2024:05:10 20:41:37
Software version	2.1.0.17532
File size	155.42 MB
<b>Model</b>	
Faces	1,696,696
Vertices	849,093
Vertex colors	3 bands, uint8
<b>Depth maps generation parameters</b>	
Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	5 minutes 31 seconds
Memory usage	2.42 GB
<b>Reconstruction parameters</b>	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Disabled
Strict volumetric masks	No
Processing time	2 minutes 2 seconds
Memory usage	2.35 GB
Date created	2024:05:11 17:26:31
Software version	2.1.0.17532
File size	36.42 MB
<b>System</b>	
Software name	Agisoft Metashape Professional
Software version	2.1.0 build 17532
OS	Windows 64 bit
RAM	31.94 GB
CPU	Intel(R) Core(TM) i7-9700K CPU @ 3.60GHz
GPU(s)	Quadro P2000