

# Socha sv. Petra

katedrála v Avile (Španělsko)

21 May 2020



# Survey Data

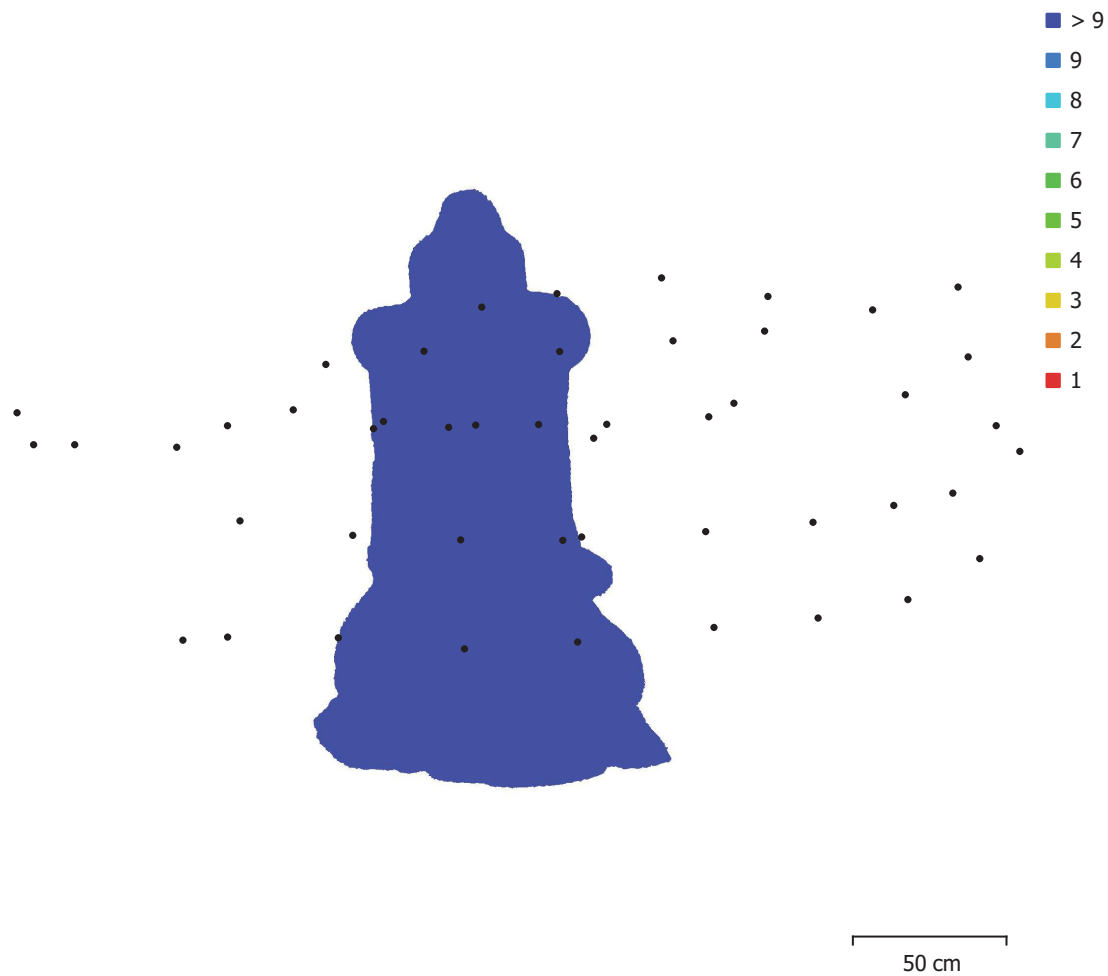


Fig. 1. Camera locations and image overlap.

Number of images:	48	Camera stations:	48
Flying altitude:	1.55 m	Tie points:	18,365
Ground resolution:	0.467 mm/pix	Projections:	45,401
Coverage area:	1.35 m <sup>2</sup>	Reprojection error:	2.17 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
iPhone 7 (3.99mm)	4032 x 3024	3.99 mm	1.22 x 1.22 $\mu\text{m}$	No

Table 1. Cameras.

# Camera Calibration

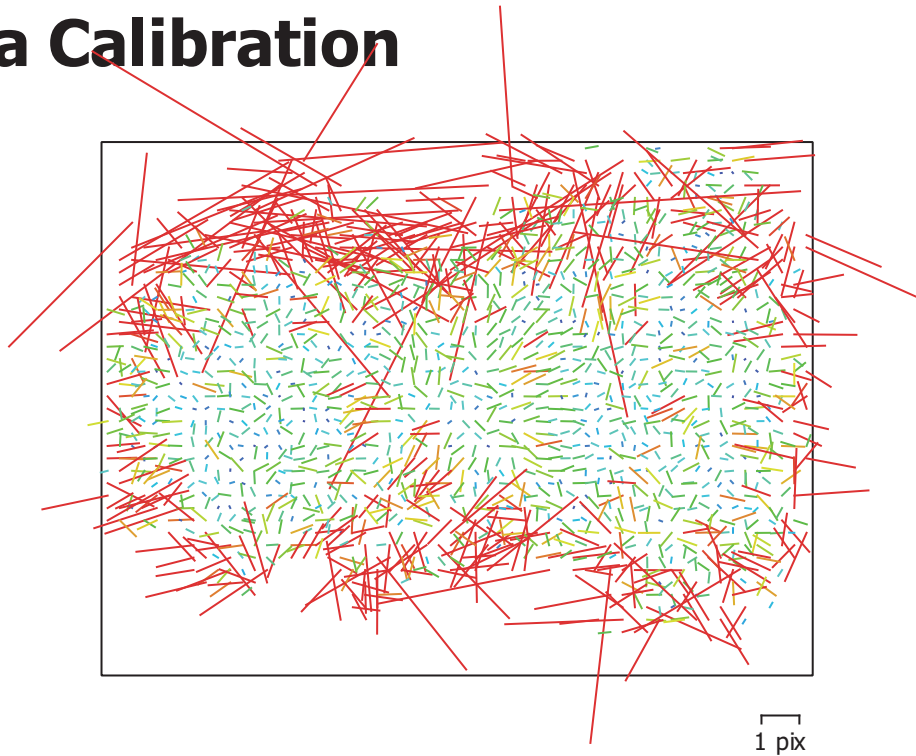


Fig. 2. Image residuals for iPhone 7 (3.99mm).

## iPhone 7 (3.99mm)

48 images

Type	Resolution	Focal Length	Pixel Size
<b>Frame</b>	<b>4032 x 3024</b>	<b>3.99 mm</b>	<b>1.22 x 1.22 <math>\mu\text{m}</math></b>
F:	3261.64		
Cx:	0	B1:	0
Cy:	0	B2:	0
K1:	0	P1:	0
K2:	0	P2:	0
K3:	0	P3:	0
K4:	0	P4:	0

# Processing Parameters

## General

Cameras	48
Aligned cameras	48
Coordinate system	WGS 84 (EPSG::4326)
Rotation angles	Yaw, Pitch, Roll

## Point Cloud

Points	18,365 of 25,710
RMS reprojection error	0.311877 (2.17279 pix)
Max reprojection error	0.945177 (40.6808 pix)
Mean key point size	7.3673 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	2.54278

## Alignment parameters

Accuracy	High
Generic preselection	Yes
Reference preselection	No
Key point limit	120,000
Tie point limit	0
Filter points by mask	Yes
Mask tie points	Yes
Adaptive camera model fitting	Yes
Matching time	20 minutes 6 seconds
Alignment time	8 seconds
Software version	1.5.2.7838

## Depth Maps

Count	48
-------	----

## Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	6 minutes 34 seconds
Software version	1.5.2.7838

## Dense Point Cloud

Points	5,661,191
Point colors	3 bands, uint8

## Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	6 minutes 34 seconds

## Dense cloud generation parameters

Processing time	10 minutes 42 seconds
Software version	1.5.2.7838

## Model

Faces	1,110,875
Vertices	556,143
Vertex colors	3 bands, uint8
Texture	8,192 x 8,192, 4 bands, uint8

## Depth maps generation parameters

Quality	High
Filtering mode	Mild
Processing time	6 minutes 34 seconds

## General

### Reconstruction parameters

Surface type	Arbitrary
Source data	Dense cloud
Interpolation	Enabled
Strict volumetric masks	No
Processing time	4 minutes 33 seconds

### Texturing parameters

Blending mode	Mosaic
Texture size	8,192
Enable hole filling	Yes
Enable ghosting filter	Yes
UV mapping time	1 minutes 17 seconds
Blending time	4 minutes 1 seconds
Software version	1.5.2.7838

## Software

Version	1.5.2 build 7838
Platform	Windows 64