

## I. Settings

### A. Positioning/georeferencing:

- Positioning mode: Use control points for adjustment

### B. Main settings:

- Key point density: Normal  
 - Pair selection mode: Default  
 - Component construction mode: OnePass

### C. Estimation policies:

- Tie points: Compute  
 - Position: Compute  
 - Rotation: Compute  
 - Photogroup estimation mode: OnePass  
 - Focal length: Adjust  
 - Principal point: Adjust  
 - Radial distortion: Adjust  
 - Tangential distortion: Adjust

## II. Results

### A. Global:

- Errors

Type	Before aerotriangulation							After aerotriangulation						
	Number of points	Median reprojection error [px]	RMS of reprojection errors [px]	RMS of distances to rays [m]	RMS of 3D errors [m]	RMS of horizontal errors [m]	RMS of vertical errors [m]	Number of points	Median reprojection error [px]	RMS of reprojection errors [px]	RMS of distances to rays [m]	RMS of 3D errors [m]	RMS of horizontal errors [m]	RMS of vertical errors [m]
Control_points	10							10	0.49	0.82	0.057	0.059	0.042	0.042
Automatic_tie_points	0							14955	0.82	1.02	0.054			

NB: Horizontal and vertical errors are given according to the following spatial reference system: WGS84

- Connections

		Before aerotriangulation	After aerotriangulation
Number of tested pairs	Median number of tested pairs per photo	Median number of connected photos per photo	Median number of connected photos per photo
883	37	29	36

### B. Per photo:

- Control points

Photo		Before aerotriangulation			After aerotriangulation		
Photogroup	File name	Number of points	RMS of reprojection errors [px]	RMS of distances to rays [m]	Number of points	RMS of reprojection errors [px]	RMS of distances to rays [m]
Photogroup_1	DJI_0009.JPG	0			6	0.88	0.056
Photogroup_1	DJI_0010.JPG	0			5	0.46	0.034

Photogroup_1	DJI_0012.JPG	0			3	0.54	0.059
Photogroup_1	DJI_0013.JPG	0			2	0.46	0.069
Photogroup_1	DJI_0014.JPG	0			1	0.17	0.009
Photogroup_1	DJI_0016.JPG	0			1	0.14	0.052
Photogroup_1	DJI_0017.JPG	0			1	0.22	0.030
Photogroup_1	DJI_0018.JPG	0			1	0.32	0.030
Photogroup_1	DJI_0019.JPG	0			2	0.36	0.042
Photogroup_1	DJI_0020.JPG	0			3	0.64	0.090
Photogroup_1	DJI_0021.JPG	0			2	0.63	0.065
Photogroup_1	DJI_0022.JPG	0			2	0.58	0.046
Photogroup_1	DJI_0023.JPG	0			2	0.53	0.044
Photogroup_1	DJI_0024.JPG	0			2	0.51	0.059
Photogroup_1	DJI_0025.JPG	0			2	0.48	0.068
Photogroup_1	DJI_0026.JPG	0			2	0.46	0.049
Photogroup_1	DJI_0027.JPG	0			2	0.50	0.035
Photogroup_1	DJI_0028.JPG	0			3	0.45	0.042
Photogroup_1	DJI_0029.JPG	0			3	0.50	0.051
Photogroup_1	DJI_0030.JPG	0			4	0.55	0.065
Photogroup_1	DJI_0031.JPG	0			3	0.29	0.046
Photogroup_1	DJI_0032.JPG	0			2	0.20	0.034
Photogroup_1	DJI_0033.JPG	0			1	0.17	0.025
Photogroup_1	DJI_0034.JPG	0			1	0.07	0.048
Photogroup_1	DJI_0035.JPG	0			1	0.13	0.046
Photogroup_1	DJI_0036.JPG	0			1	0.21	0.025
Photogroup_1	DJI_0037.JPG	0			2	0.24	0.031
Photogroup_1	DJI_0038.JPG	0			3	0.38	0.044
Photogroup_1	DJI_0039.JPG	0			4	0.52	0.062
Photogroup_1	DJI_0040.JPG	0			5	0.94	0.072
Photogroup_1	DJI_0041.JPG	0			6	0.83	0.059
Photogroup_1	DJI_0042.JPG	0			4	1.34	0.087
Photogroup_1	DJI_0043.JPG	0			3	2.03	0.091
Photogroup_1	DJI_0044.JPG	0			4	0.48	0.057
Photogroup_1	DJI_0045.JPG	0			5	0.73	0.055
Photogroup_1	DJI_0046.JPG	0			7	0.60	0.042
Photogroup_1	DJI_0047.JPG	0			8	1.11	0.070
Photogroup_1	DJI_0048.JPG	0			8	0.72	0.051
Photogroup_1	DJI_0049.JPG	0			9	0.90	0.073
Photogroup_1	DJI_0050.JPG	0			5	0.61	0.042

Photogroup_1	DJI_0051.JPG	0			4	0.56	0.045
Photogroup_1	DJI_0052.JPG	0			3	0.46	0.046
Photogroup_1	DJI_0053.JPG	0			2	0.39	0.042
Photogroup_1	DJI_0054.JPG	0			1	0.48	0.042
Photogroup_1	DJI_0055.JPG	0			1	0.48	0.030
Photogroup_1	DJI_0056.JPG	0			2	0.37	0.044
Photogroup_1	DJI_0057.JPG	0			4	0.44	0.040
Photogroup_1	DJI_0058.JPG	0			4	0.49	0.028
Photogroup_1	DJI_0059.JPG	0			5	0.84	0.041

- Automatic tie points

Photo		Before aerotriangulation				After aerotriangulation		
Photogroup	File name	Number of key points	Number of points	RMS of reprojection errors [px]	RMS of distances to rays [m]	Number of points	RMS of reprojection errors [px]	RMS of distances to rays [m]
Photogroup_1	DJI_0009.JPG	9179	0			1825	0.91	0.066
Photogroup_1	DJI_0010.JPG	7737	0			1573	0.98	0.062
Photogroup_1	DJI_0012.JPG	8929	0			595	1.04	0.071
Photogroup_1	DJI_0013.JPG	11109	0			1472	1.00	0.070
Photogroup_1	DJI_0014.JPG	12060	0			2226	0.92	0.061
Photogroup_1	DJI_0015.JPG	12913	0			1987	0.82	0.056
Photogroup_1	DJI_0016.JPG	12389	0			2108	1.16	0.069
Photogroup_1	DJI_0017.JPG	12033	0			2020	0.86	0.044
Photogroup_1	DJI_0018.JPG	12511	0			1540	0.96	0.044
Photogroup_1	DJI_0019.JPG	12873	0			1226	1.41	0.053
Photogroup_1	DJI_0020.JPG	13986	0			1061	0.94	0.045
Photogroup_1	DJI_0021.JPG	16859	0			891	0.99	0.055
Photogroup_1	DJI_0022.JPG	19457	0			952	0.95	0.047
Photogroup_1	DJI_0023.JPG	20558	0			977	1.02	0.052
Photogroup_1	DJI_0024.JPG	21529	0			814	1.20	0.058
Photogroup_1	DJI_0025.JPG	20463	0			801	1.06	0.056
Photogroup_1	DJI_0026.JPG	17860	0			1028	1.16	0.058
Photogroup_1	DJI_0027.JPG	16351	0			901	1.06	0.058
Photogroup_1	DJI_0028.JPG	14644	0			587	1.05	0.060
Photogroup_1	DJI_0029.JPG	13034	0			673	1.12	0.058
Photogroup_1	DJI_0030.JPG	11426	0			874	0.94	0.060
Photogroup_1	DJI_0031.JPG	10860	0			982	1.10	0.060
Photogroup_1	DJI_0032.JPG	11796	0			1063	1.10	0.069
Photogroup_1	DJI_0033.JPG	12025	0			1810	1.03	0.059

Photogroup_1	DJI_0034.JPG	12016	0			2098	0.96	0.057
Photogroup_1	DJI_0035.JPG	11927	0			2030	0.89	0.042
Photogroup_1	DJI_0036.JPG	10524	0			1639	1.02	0.044
Photogroup_1	DJI_0037.JPG	8763	0			1059	1.09	0.052
Photogroup_1	DJI_0038.JPG	7749	0			835	1.28	0.061
Photogroup_1	DJI_0039.JPG	7444	0			974	1.12	0.062
Photogroup_1	DJI_0040.JPG	8230	0			1237	1.06	0.054
Photogroup_1	DJI_0041.JPG	9775	0			1539	1.11	0.062
Photogroup_1	DJI_0042.JPG	12052	0			1646	1.14	0.056
Photogroup_1	DJI_0043.JPG	13346	0			1558	1.07	0.058
Photogroup_1	DJI_0044.JPG	14316	0			1240	1.03	0.050
Photogroup_1	DJI_0045.JPG	13122	0			1326	0.96	0.044
Photogroup_1	DJI_0046.JPG	11750	0			1676	1.06	0.056
Photogroup_1	DJI_0047.JPG	10458	0			1876	0.93	0.052
Photogroup_1	DJI_0048.JPG	8886	0			1924	0.95	0.049
Photogroup_1	DJI_0049.JPG	7385	0			1919	1.01	0.053
Photogroup_1	DJI_0050.JPG	7110	0			1450	0.99	0.057
Photogroup_1	DJI_0051.JPG	8190	0			1078	0.98	0.064
Photogroup_1	DJI_0052.JPG	10149	0			547	1.20	0.066
Photogroup_1	DJI_0053.JPG	12683	0			1794	1.07	0.053
Photogroup_1	DJI_0054.JPG	13170	0			1474	1.00	0.046
Photogroup_1	DJI_0055.JPG	11504	0			1103	1.09	0.046
Photogroup_1	DJI_0056.JPG	10039	0			1098	1.04	0.056
Photogroup_1	DJI_0057.JPG	9365	0			1457	1.06	0.054
Photogroup_1	DJI_0058.JPG	8452	0			1839	0.87	0.046
Photogroup_1	DJI_0059.JPG	9519	0			1918	0.91	0.046

## - Connections

Photo			Before aerotriangulation	After aerotriangulation
Photogroup	File name	Number of tested pairs	Number of connected photos	Number of connected photos
Photogroup_1	DJI_0009.JPG	45	39	48
Photogroup_1	DJI_0010.JPG	47	36	43
Photogroup_1	DJI_0012.JPG	41	36	37
Photogroup_1	DJI_0013.JPG	37	28	35
Photogroup_1	DJI_0014.JPG	33	23	31
Photogroup_1	DJI_0015.JPG	29	0	25
Photogroup_1	DJI_0016.JPG	28	23	27
Photogroup_1	DJI_0017.JPG	32	23	34

Photogroup_1	DJI_0018.JPG	37	23	39
Photogroup_1	DJI_0019.JPG	40	34	47
Photogroup_1	DJI_0020.JPG	46	42	47
Photogroup_1	DJI_0021.JPG	38	22	33
Photogroup_1	DJI_0022.JPG	31	22	30
Photogroup_1	DJI_0023.JPG	26	22	27
Photogroup_1	DJI_0024.JPG	23	22	27
Photogroup_1	DJI_0025.JPG	22	22	25
Photogroup_1	DJI_0026.JPG	24	22	28
Photogroup_1	DJI_0027.JPG	30	22	30
Photogroup_1	DJI_0028.JPG	38	36	38
Photogroup_1	DJI_0029.JPG	42	36	47
Photogroup_1	DJI_0030.JPG	48	46	49
Photogroup_1	DJI_0031.JPG	43	36	46
Photogroup_1	DJI_0032.JPG	39	34	39
Photogroup_1	DJI_0033.JPG	33	23	36
Photogroup_1	DJI_0034.JPG	28	23	30
Photogroup_1	DJI_0035.JPG	30	23	31
Photogroup_1	DJI_0036.JPG	34	23	35
Photogroup_1	DJI_0037.JPG	38	34	38
Photogroup_1	DJI_0038.JPG	42	36	46
Photogroup_1	DJI_0039.JPG	49	46	49
Photogroup_1	DJI_0040.JPG	42	36	45
Photogroup_1	DJI_0041.JPG	38	36	38
Photogroup_1	DJI_0042.JPG	31	29	32
Photogroup_1	DJI_0043.JPG	25	24	29
Photogroup_1	DJI_0044.JPG	26	24	25
Photogroup_1	DJI_0045.JPG	25	24	27
Photogroup_1	DJI_0046.JPG	30	30	31
Photogroup_1	DJI_0047.JPG	37	36	37
Photogroup_1	DJI_0048.JPG	39	36	43
Photogroup_1	DJI_0049.JPG	48	48	48
Photogroup_1	DJI_0050.JPG	42	38	48
Photogroup_1	DJI_0051.JPG	39	37	41
Photogroup_1	DJI_0052.JPG	37	36	37
Photogroup_1	DJI_0053.JPG	30	28	34
Photogroup_1	DJI_0054.JPG	26	11	31
Photogroup_1	DJI_0055.JPG	29	11	32

Photogroup_1	DJI_0056.JPG	37	27	36
Photogroup_1	DJI_0057.JPG	39	29	36
Photogroup_1	DJI_0058.JPG	37	29	41
Photogroup_1	DJI_0059.JPG	36	28	38

C. Per point:

- Control points:

					Before aerotriangulation						After aerotriangulation					
Name	Category	Check point	Horizontal accuracy [m]	Vertical accuracy [m]	Number of photos	RMS of reprojection errors [px]	RMS of distances to rays [m]	RMS of 3D errors [m]	RMS of horizontal errors [m]	RMS of vertical errors [m]	Number of photos	RMS of reprojection errors [px]	RMS of distances to rays [m]	RMS of 3D errors [m]	RMS of horizontal errors [m]	RMS of vertical errors [m]
I	Full		0.010	0.010	23						23	0.65	0.065	0.068	0.064	0.023
H	Full		0.010	0.010	21						21	0.56	0.058	0.058	0.057	-0.009
G	Full	x	0.010	0.010	12						12	1.64	0.090	0.078	0.044	0.064
F	Full		0.010	0.010	6						6	0.76	0.054	0.084	0.055	0.064
A	Full		0.010	0.010	17						17	0.54	0.047	0.036	0.034	0.014
D	Full		0.010	0.010	24						24	0.31	0.037	0.028	0.028	0.004
B	Full		0.010	0.010	24						24	0.42	0.047	0.046	0.041	-0.020
C	Full		0.010	0.010	12						12	0.61	0.055	0.043	0.041	0.012
E	Full		0.010	0.010	7						7	1.07	0.058	0.086	0.012	-0.085
J	Full		0.010	0.010	11						11	0.78	0.043	0.024	0.009	0.023

NB: Horizontal and vertical errors are given according to each control point respective spatial reference system

- Automatic tie points:

				Before aerotriangulation			After aerotriangulation				
Median number of key points per photo	Number of points	Median number of photos per point	Median number of points per photo	RMS of reprojection errors [px]	RMS of distances to rays [m]	Number of points	Median number of photos per point	Median number of points per photo	RMS of reprojection errors [px]	RMS of distances to rays [m]	
11927	0		0			14955	4	1450	1.02	0.054	