

## Calibration results

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### Camera-system parameters:

cam0 (/camera/image\_raw\_front):

```
type: <class 'aslam_cv.libaslam_cv_python.DoubleSphereCameraGeometry'>
distortion: [] +- []
projection: [ -0.1076476  0.64165914 234.11533549 234.15828513 329.22494811
251.80613102] +- [0.00070183 0.00027552 0.03470476 0.03436401 0.17906261 0.15224583]
reprojection error: [0.000026, 0.000002] +- [1.493501, 0.631459]
```

cam1 (/camera/image\_raw\_rear):

```
type: <class 'aslam_cv.libaslam_cv_python.DoubleSphereCameraGeometry'>
distortion: [] +- []
projection: [ -0.18466926  0.6149998 215.2470588 215.53174166 322.7670974
231.16223315] +- [0.00064488 0.00026486 0.04086478 0.0398026 0.17388008 0.17263785]
reprojection error: [-0.000009, -0.000017] +- [1.061572, 0.465878]
```

cam2 (/camera/image\_raw\_left):

```
type: <class 'aslam_cv.libaslam_cv_python.DoubleSphereCameraGeometry'>
distortion: [] +- []
projection: [ -0.21518084  0.60814897 210.67453967 210.60024087 312.38211348
240.12879898] +- [0.00075423 0.00027625 0.03709542 0.03623369 0.16792352 0.16311816]
reprojection error: [-0.000001, 0.000000] +- [0.268613, 0.214042]
```

cam3 (/camera/image\_raw\_right):

```
type: <class 'aslam_cv.libaslam_cv_python.DoubleSphereCameraGeometry'>
distortion: [] +- []
projection: [ -0.21942491  0.61128385 212.35809761 211.85784962 345.54826449
229.40396017] +- [0.00064616 0.00019436 0.03393682 0.03319763 0.16916747 0.17383698]
reprojection error: [-0.000005, 0.000013] +- [0.912238, 0.394981]
```

baseline T\_1\_0:

```
q: [ 0.00088431 -0.71243798 -0.02959256 0.70111028] +- [0.00064849 0.00095652 0.00062997]
t: [ 0.06998559 -0.00062604 -0.06174851] +- [0.00051587 0.00027438 0.00053009]
```

baseline T\_2\_1:

q: [ 0.00998907 -0.70574758 -0.02678878 0.70788624] +- [0.00062062 0.00096527 0.00063142]  
t: [ 0.05188907 0.0036244 -0.0452706 ] +- [0.00064635 0.0003734 0.00076195]

baseline T\_3\_2:

q: [ 0.00984533 -0.70460967 -0.01736155 0.70931436] +- [0.00065265 0.000915 0.00060996]  
t: [ 0.05340922 0.00204517 -0.04618801] +- [0.00081404 0.00038925 0.00065402]

Target configuration

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Type: aprilgrid

Tags:

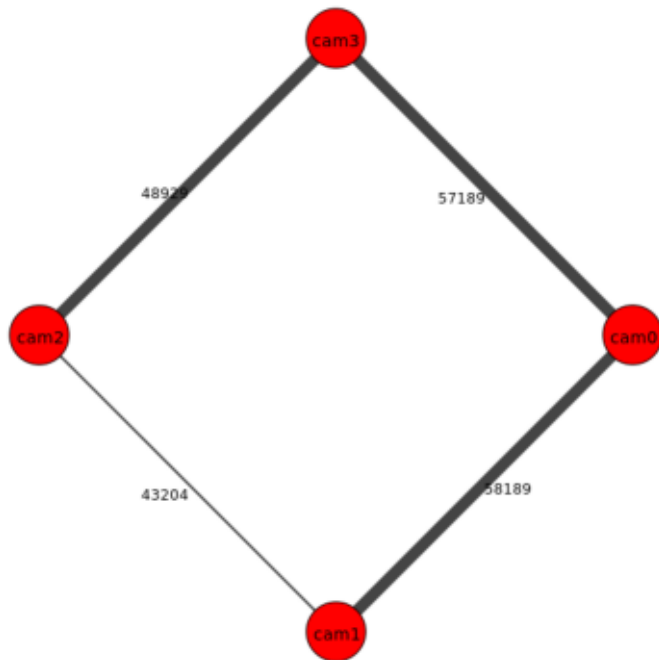
Rows: 6

Cols: 6

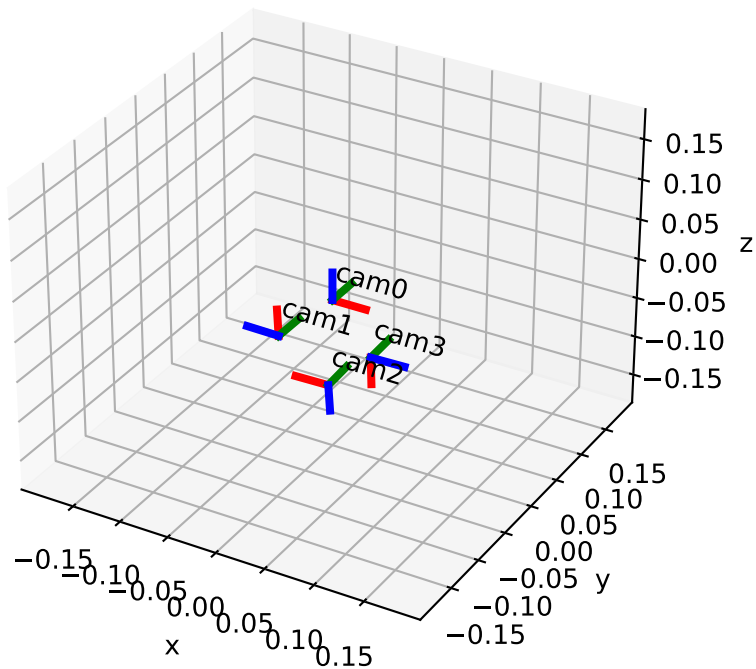
Size: 0.088 [m]

Spacing 0.0259999999996 [m]

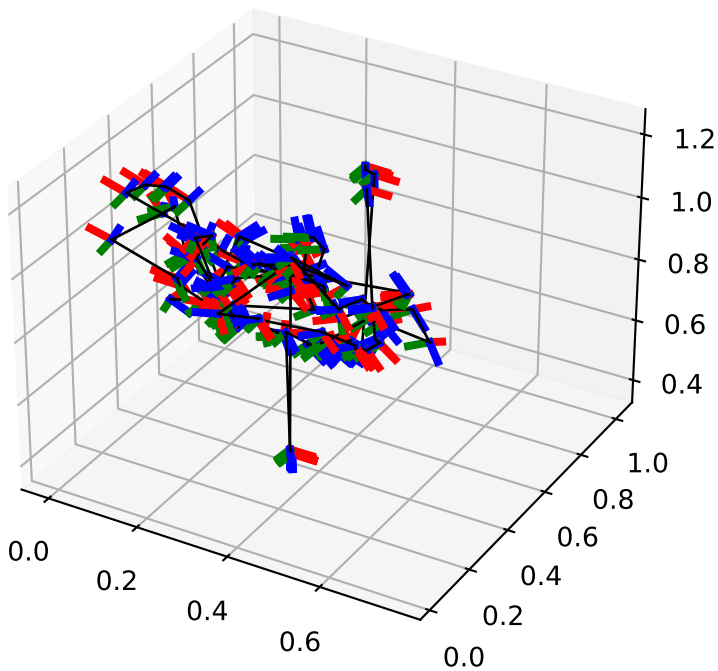
Inter-camera observations graph (edge weight=#mutual obs.)



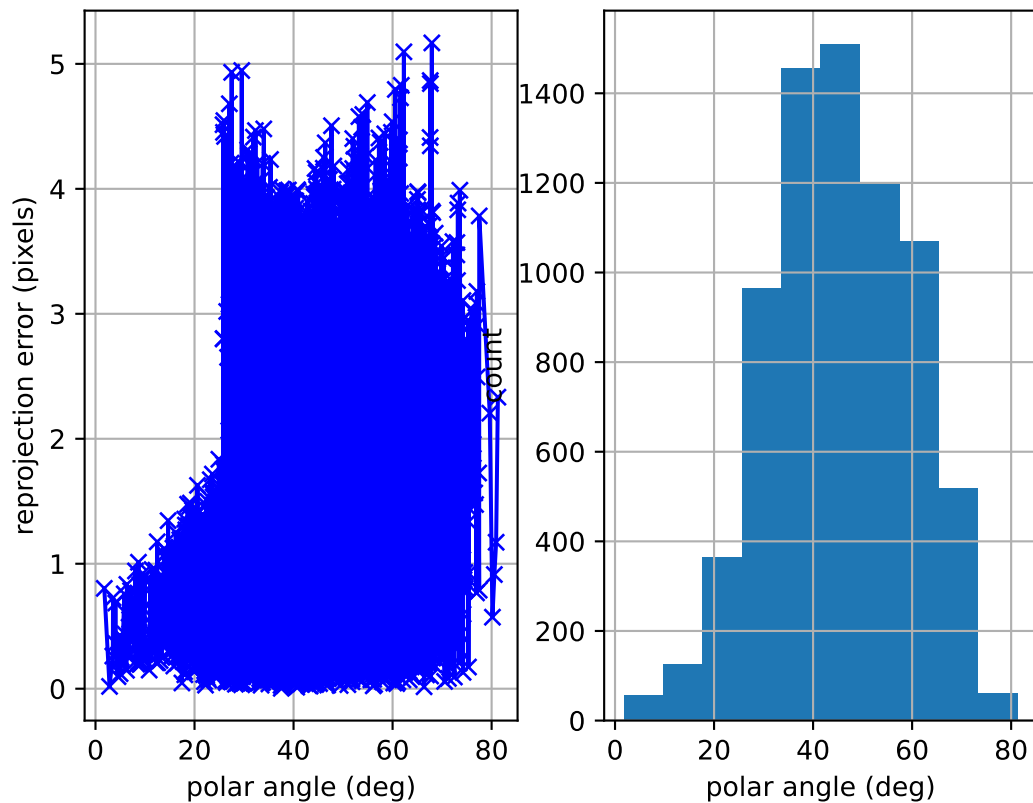
camera system



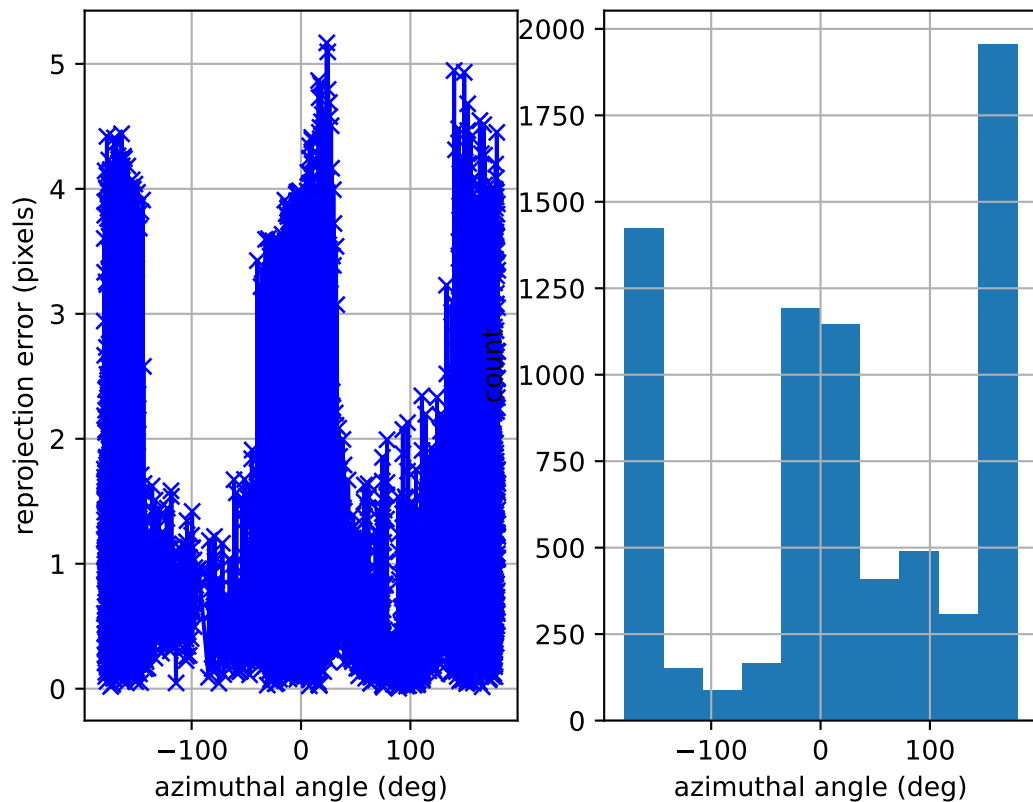
cam0: estimated poses



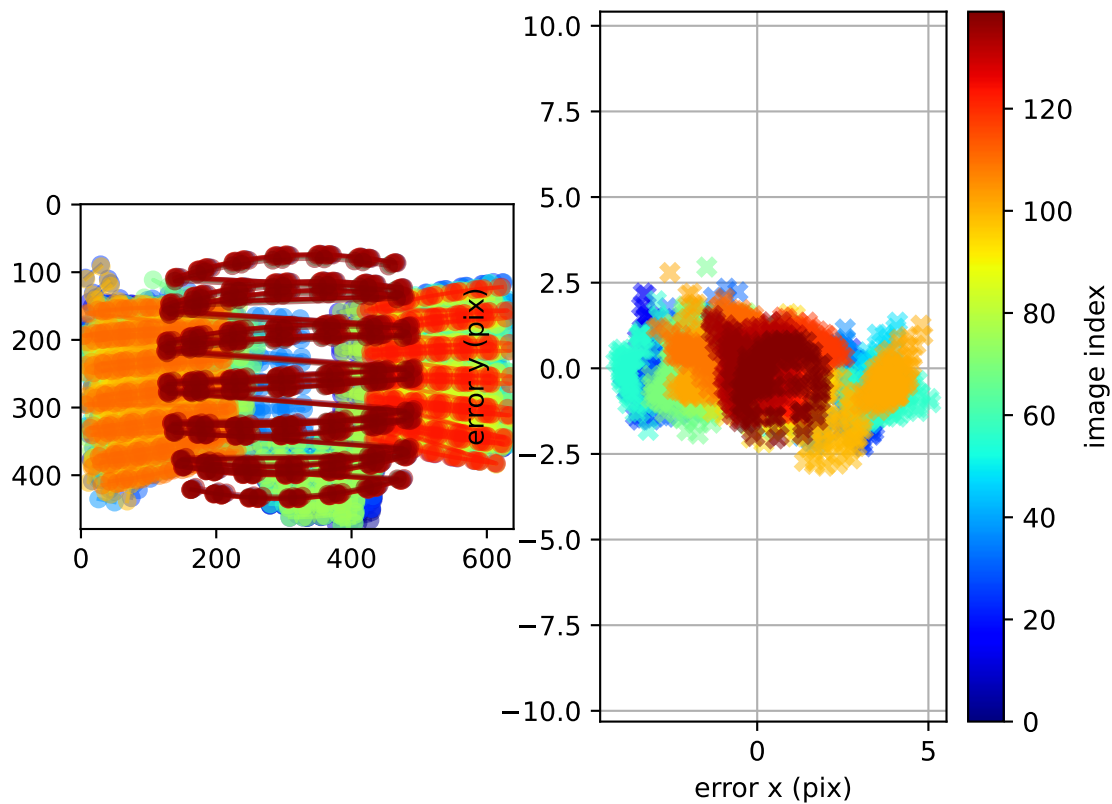
cam0: polar error



cam0: azimuthal error

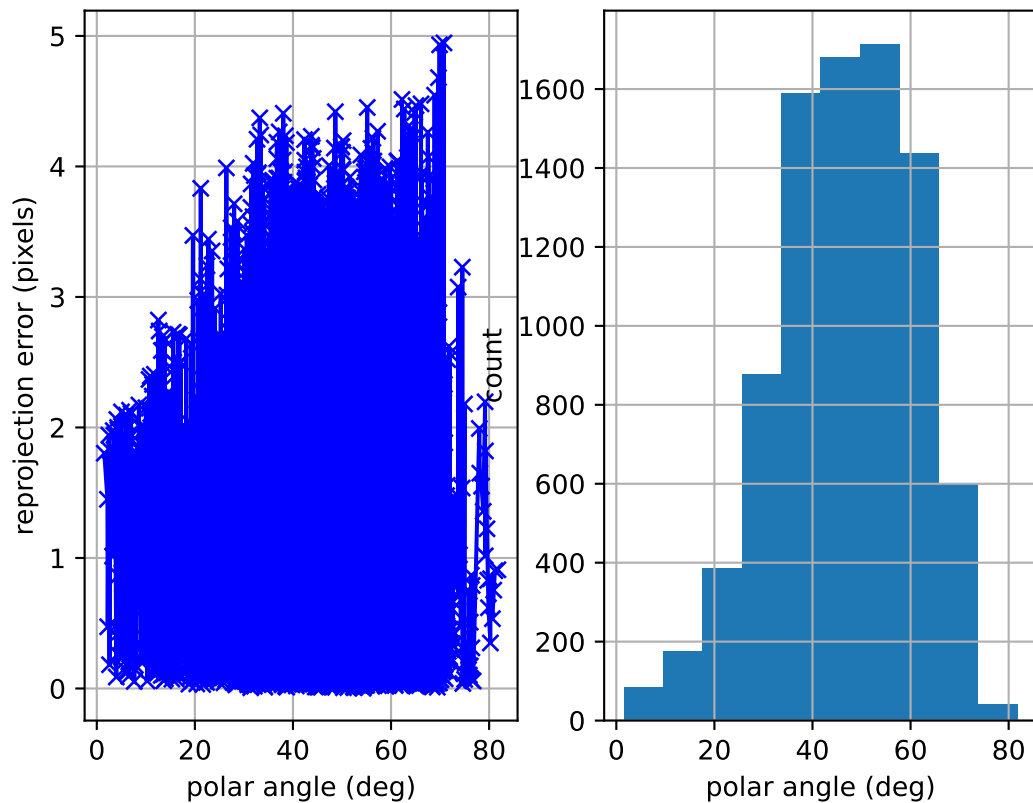


cam0: reprojection errors

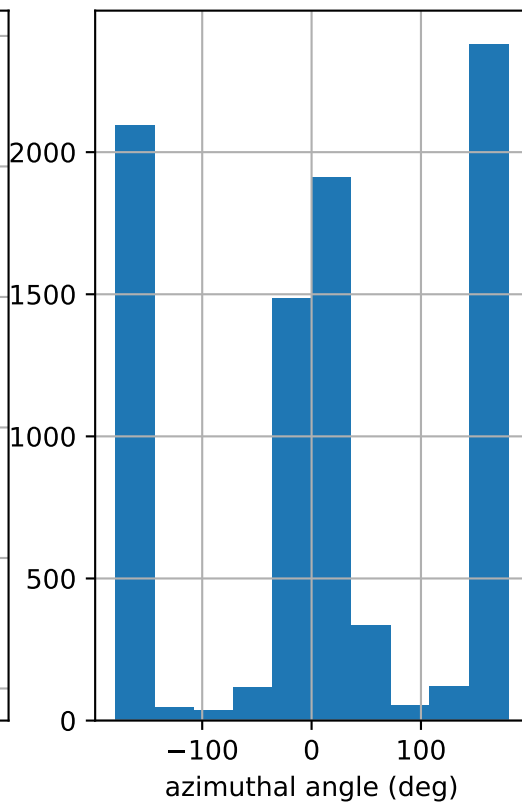
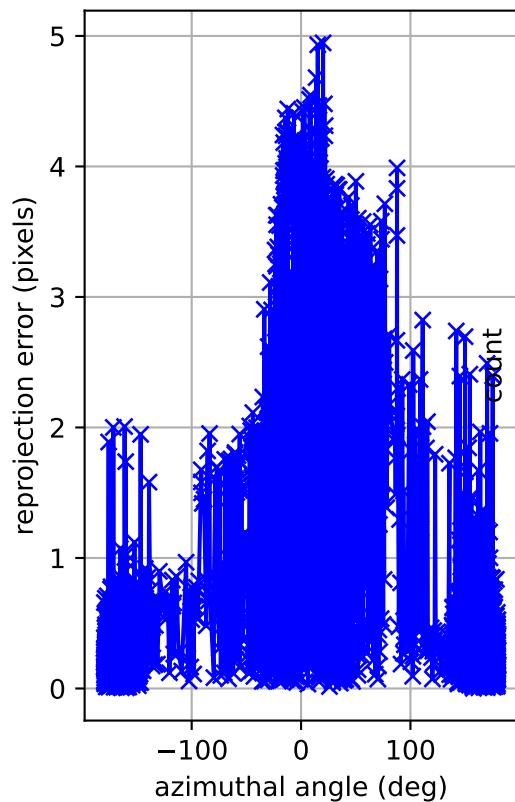




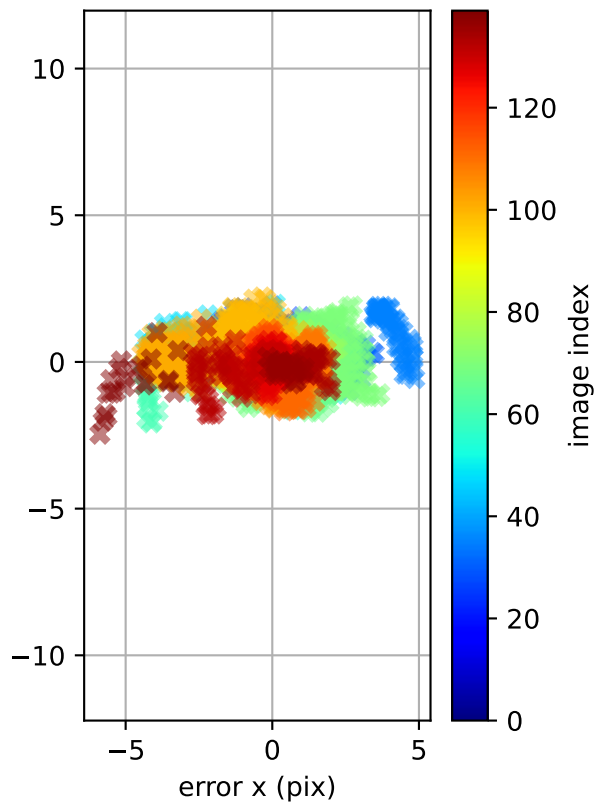
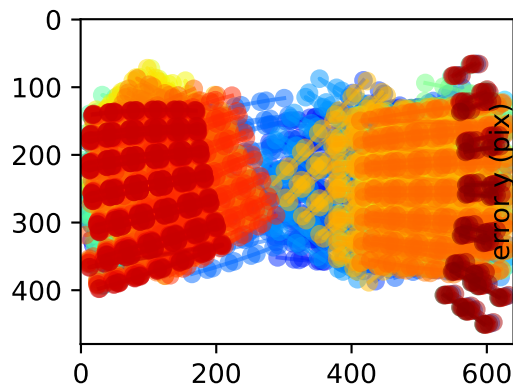
cam1: polar error



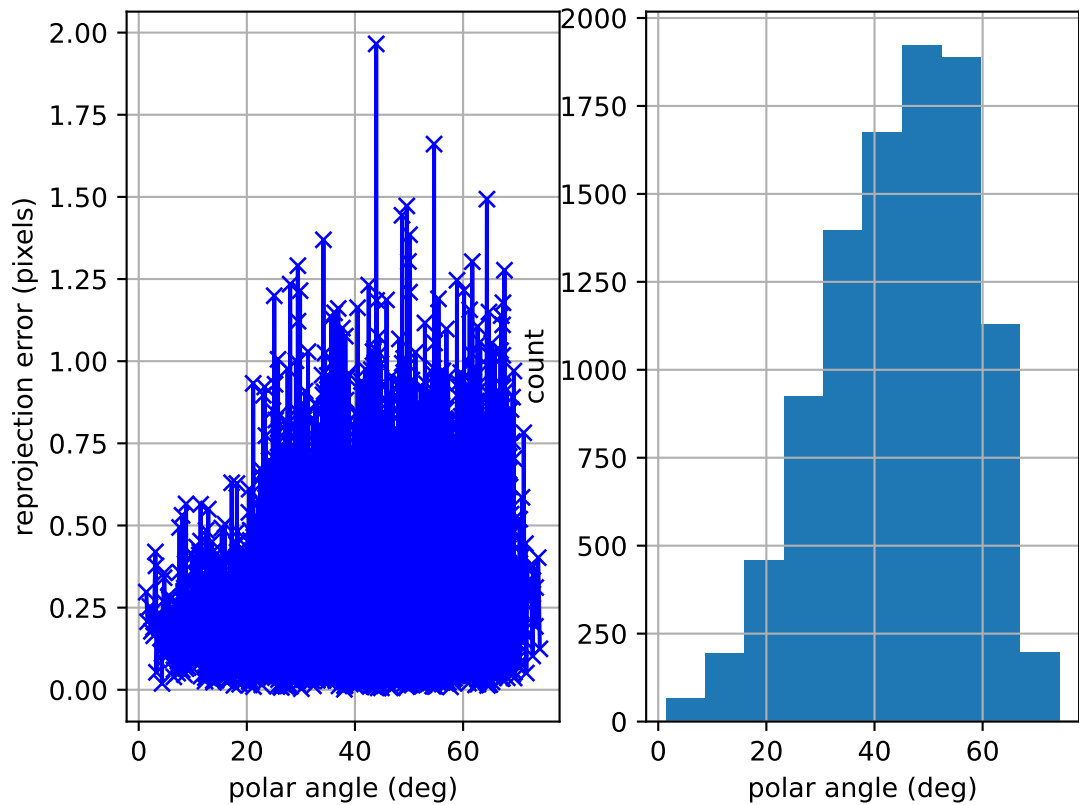
cam1: azimuthal error



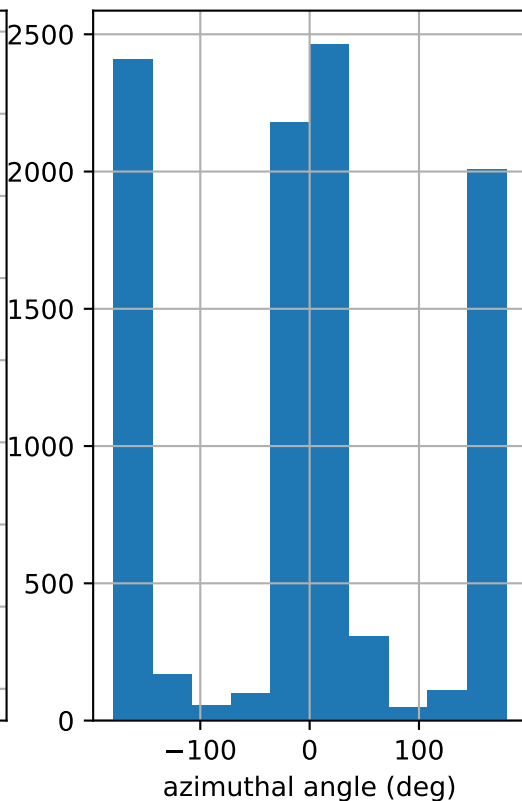
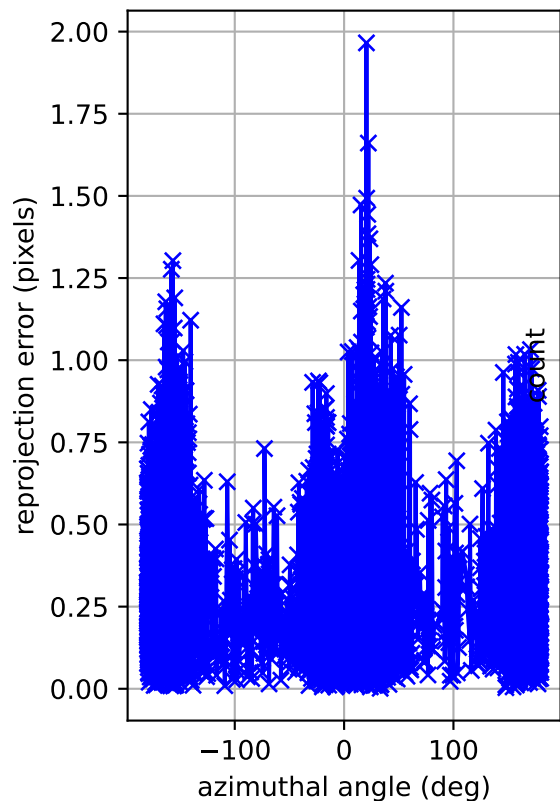
cam1: reprojection errors



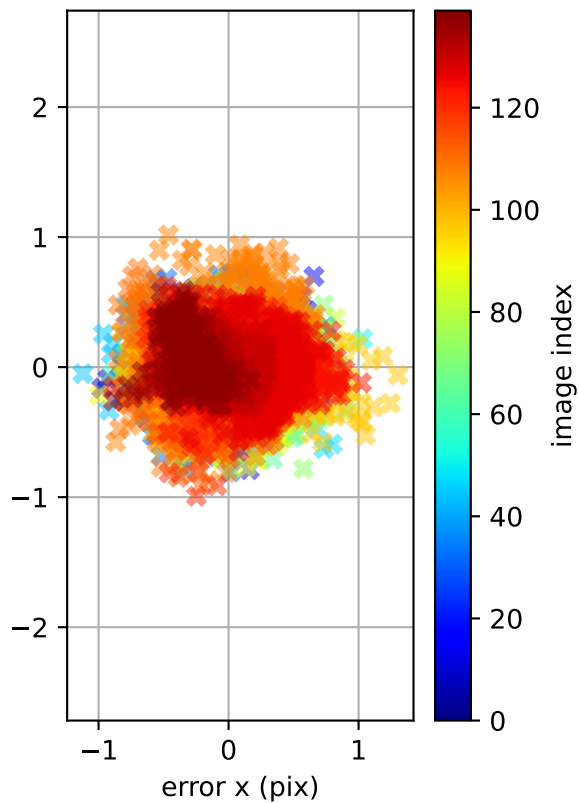
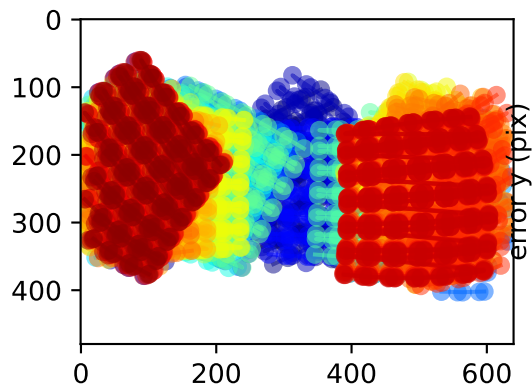
cam2: polar error



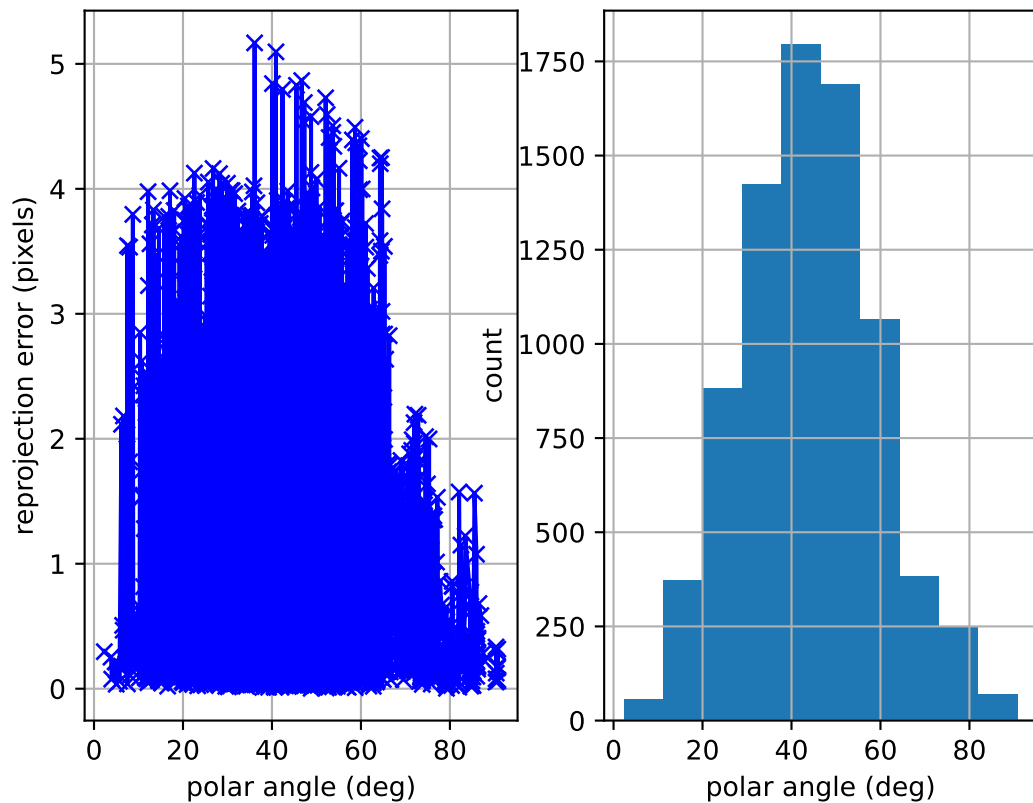
cam2: azimuthal error



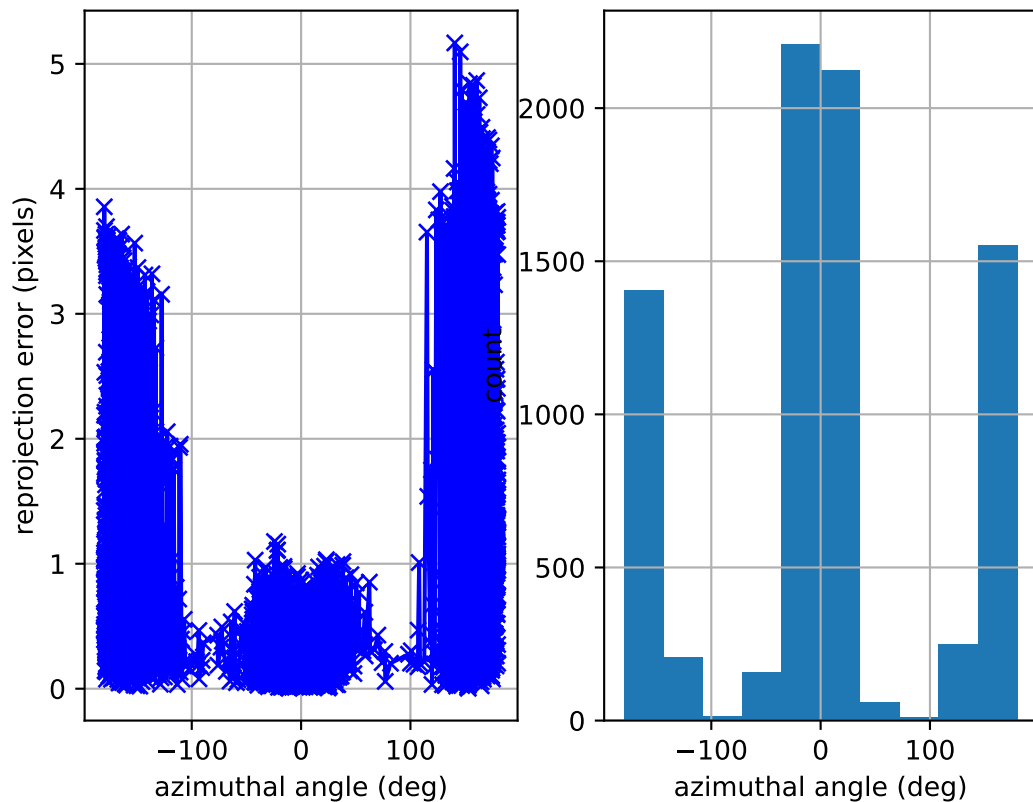
cam2: reprojection errors



cam3: polar error

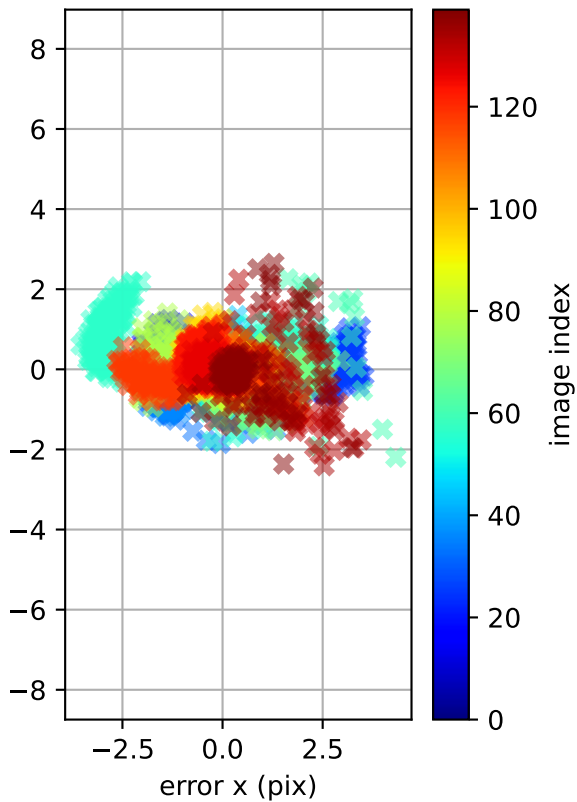
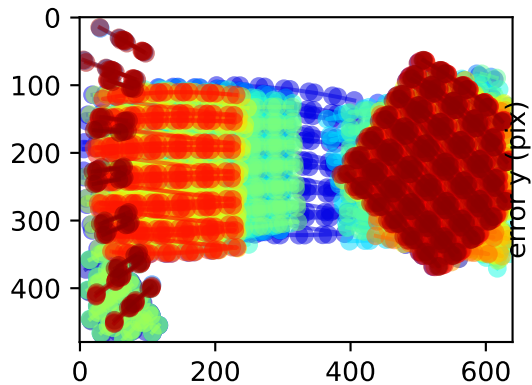


cam3: azimuthal error



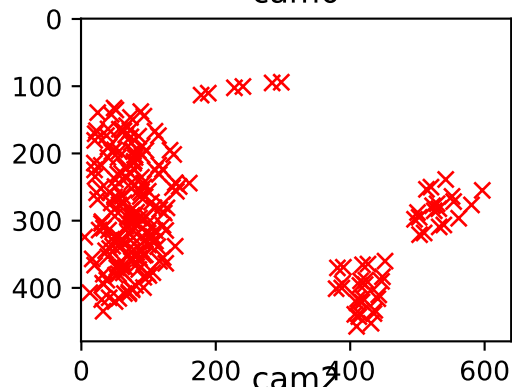


cam3: reprojection errors

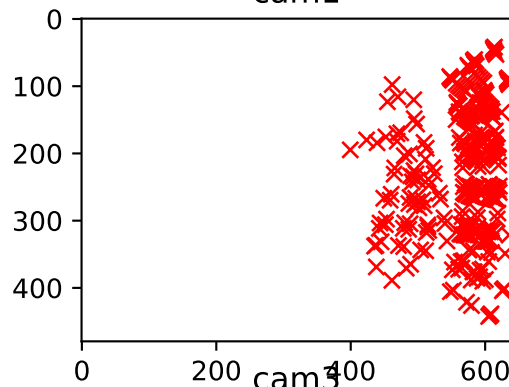


# Location of removed outlier corners

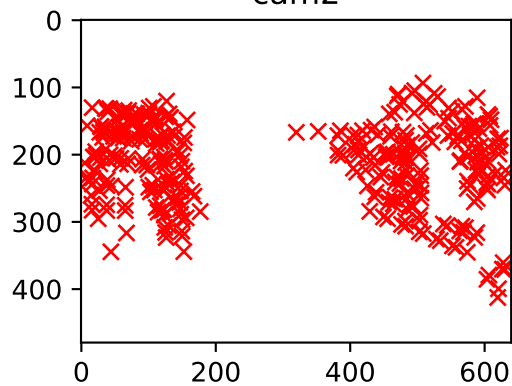
cam0



cam1



cam2



cam3

