

Creating a Framespec File

The "framespec.csv" file

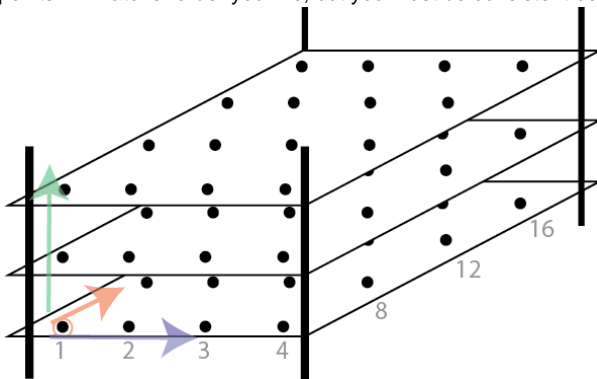
In order to reconstruct the relationship of an x-ray's focal spot to the calibration object, a framespec (or calibration specification) file is needed. The framespec file itself is a set of xyz coordinates describing the location of the points in your calibration object relative to a single point (the origin). Therefore, each different calibration object has its own, different, framespec file.

Together with the calibration object, the framespec is needed to create DLT coefficients and mayaCams, and the framespec file can also be used to check your calibration.

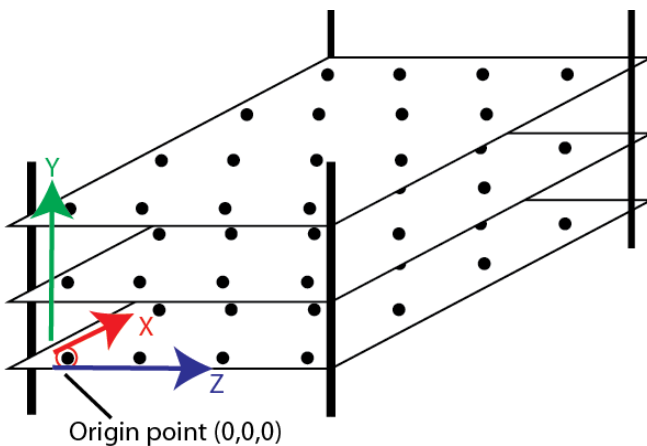
How to create a framespec file

1. Number the points on your calibration object and designate an origin point and the orientation of the axes relative to this origin.

- If you're working with a cube, it's generally easiest to use one of the corner points as origin and make it #1. You can number the rows of points in whatever order you like, but you must be consistent between the sheets of the cube.

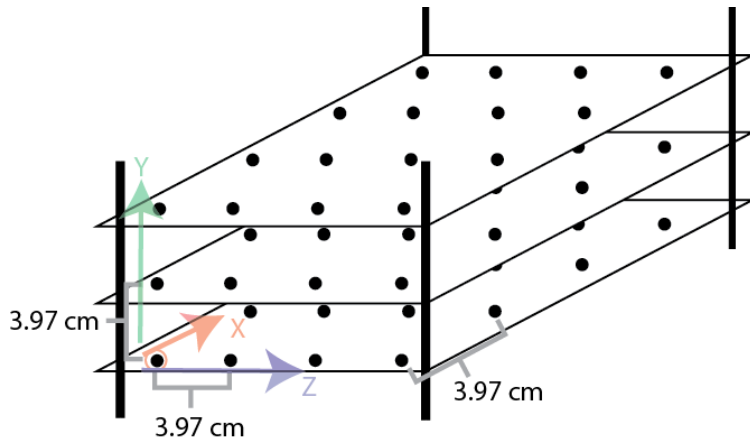


- The axes need to be RIGHT-HANDED (follow the right-hand rule) and set relative to the origin point.



2. Measure the distance (along each axis) between adjacent points--if this information is not already known from building the calibration cube.

- The MATLAB and Maya scripts are set to work in centimeters, so the measurements of the framespec file must also be in centimeters. Here is an example:



3. Determine the xyz coordinates of the calibration cube points (in cm) relative the origin point.

- Create a spreadsheet (save as a .csv file) with X, Y, and Z column labels with one row for each calibration cube point. Start with point #1 (the origin) in the first column and continue with all points in numerical order.

	A	B	C	D
1	x	y	z	
2		0	0	
3		0	3.97	
4		0	7.94	