

MATLAB XrayProject digitizing instructions

This is an outdated page. Use [Step by step digitizing instructions](#) instead.

Download and install XrayProject MATLAB program

If the newest version of the XrayProject MATLAB program is not already present on the computer you are using, download the most recent XrayProject from the [z_*](#)**OBSOLETE*** [Recent Changes and DOWNLOADS](#) page (note that a separate VideoCorrection and SVDrigidBody folders are no longer needed starting with version 2.0.0 of XrayProject). Then open MATLAB and use **File/Set Path** to add the XrayProject folder to your saved MATLAB paths (and delete paths to old versions).

Files you need for digitizing:

1. distorted grid image, TIFF format, for each camera
2. distorted calibration frame image, TIFF format, for each camera
3. the correct framespec.csv file for the calibration frame (cube) used. Click [here](#) for the calibration cube with 6.5 cm spacing.
4. video files

Files that result from the process:

1. UNDTFORM.mat files (containing the mathematical transformations for undistorting images)
2. undistorted calibration frame and grid TIFF images
3. one DLT coefficients file per camera; all cameras must then be combined into a single DLTcoefs.csv file either with XrayProject or in Excel
4. one [mayaCam.csv](#) and one xypts.csv (with the calibration frame xy point coordinates) per camera
5. Saving your digitized data creates five files, all with the prefix (indicated below as *) that you have selected. These are:
 - *offsets.csv: lists the offsets for each frame
 - *xypts.csv: lists the raw digitized xy coordinates for each camera view in each frame
 - *xyzpts.csv: lists the 3D xyz coordinates for each frame once the DLT coefficients have been applied to the 2D data from each camera
 - *xyzres.csv: lists the DLT residuals for each marker point in every frame
 - *markerDistances.csv: lists the pair-wise distances between all points

Getting Started:

Open MATLAB, and in the Command Window run the XrayProject.mat script by typing "XrayProject" and press Enter or Return. The XrayProject workflow window will open up:

Once the XrayProject command window appears:

1. If UNDTFORM.mat files have already been created, click that you have these files. If the UNDTFORM files have not yet been created, [click here for instructions](#).
2. If undistorted calibration cube images have already been created, click that you have these files. If undistorted calibration cube images have not been created, [click here for instructions](#).
3. If DLT coefficients have already been created, click that you have these files. If DLT coefficients have not been created, [click here for instructions](#).
4. Click "Digitize". The DLTdataviewer control window will open up.

We recommend checking your calibration before you start digitizing.

Digitizing

- [z_*](#)**OBSOLETE*** Digitizing in DLTdataviewer (step by step instructions)

- [z_*OBSOLETE* DLTdataviewer Controls Explained](#)
- [Saving Data](#)
- [z_*OBSOLETE* Reload Digitized Data](#)
- [Digitizing Keyboard Shortcuts](#)