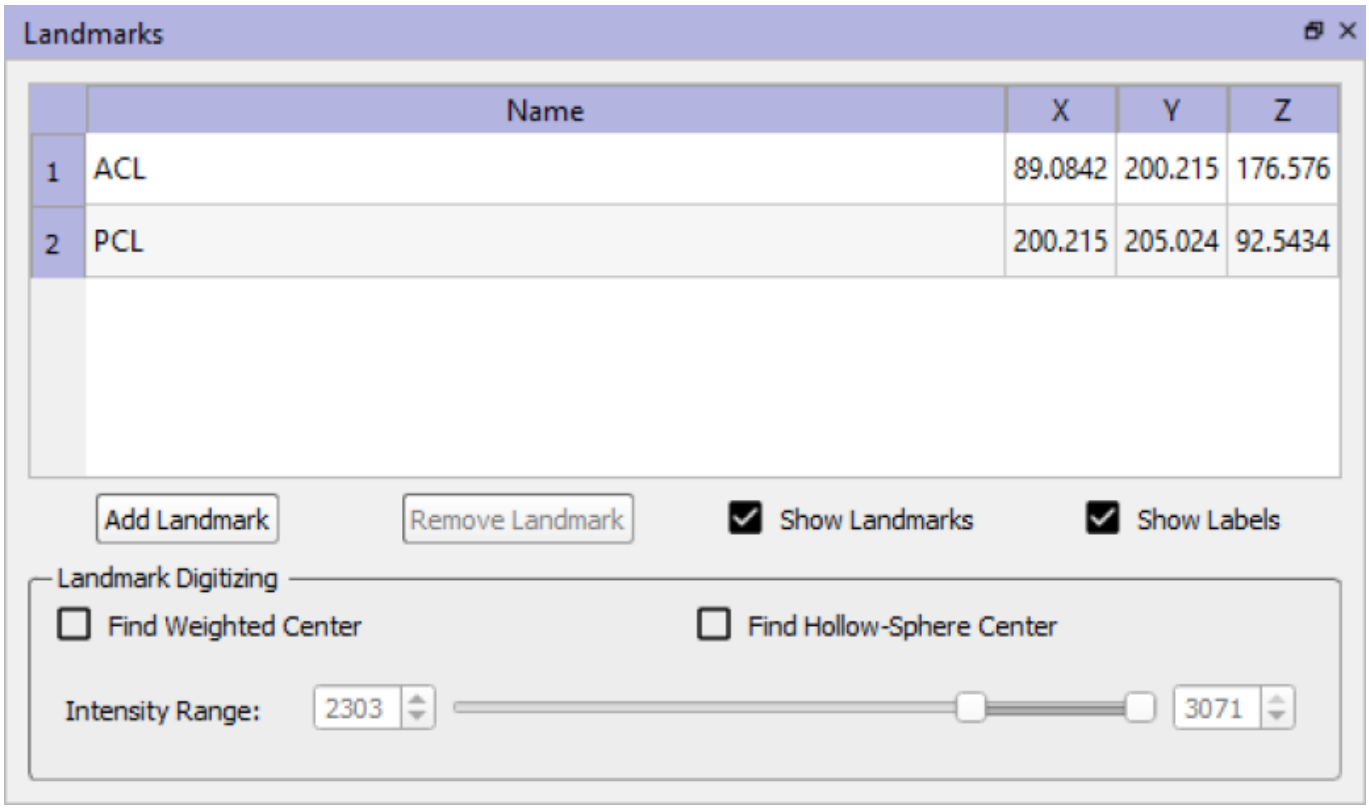
Landmarks

Landmarks are features of an object whose locations you want to calculate once the object's pose is known, such as ligament attachment sites. They are distinguished from points of interest, which are object features such as implanted beads that are used to calculate the pose. Thus, POIs are used to determine the pose of an object and landmarks are used to calculate locations dependent on the pose.

Landmarks Widget

Surface3D's Landmarks widgets allows users to define, edit, and remove landmarks for an object.



- **Add Landmark** adds a new landmark to the object. After pressing the button, left-click in one of the 2D image data windows to set the location of the landmark. *Surface3D* will create a landmark with a default name and add it to the table. To change the name, double-click on it and type in a new name.
- **Remove Landmark** deletes the currently selected landmark from the object. To select a landmark, click on its row in the table.
- **Show Landmarks** toggles the display of the landmark spheres in the 2D and 3D image data windows.
- **Show Labels** toggles the display of the landmark labels (names) in the 2D and 3D image data windows.
- **Landmark Table** The table shows all of the object's landmarks. The columns are the name of the landmark, and the X, Y, and Z coordinates in the image data's reference frame. A landmark name can be changed by double-clicking on it and typing in a new name. To change the XYZ

coordinates, select the landmark by clicking on its row in the table, then click on the new location in one of the 2D image data windows.

- **Landmark Digitizing** This control lets you choose how the coordinates of the landmark will be determined when you left-click in one of the image data windows to add or modify a landmark. If *Find Weighted Center* is checked, a marching cubes algorithm searches for all voxels connected to the one you clicked on that are within the specified *Intensity Range*. The weighted center of these voxels is then calculated and the landmark is put at this center. If *Find Hollow-Sphere Center* is checked, a marching cubes algorithm searches for all voxels connected to the one you clicked on that are within the specified *Intensity Range*. A sphere is then fit to these voxels and the landmark is put at the sphere center. If neither option is checked, the landmark is placed at the exact coordinates of the location you clicked on.