C~VIEW - HOLES - 3D EXPORT

This example will show how to export a dataset with hole(s) in it to a 3D object.

This loads 2 scans which both have holes in them, 1 dataset has addition random noise throughout the scan.

The dataset with noise should be used for this example. The dataset with no noise can be used to practice other tools on.

The aim of this is to show how to clean up the data before creating the 3D object.

This will show how to:

- Lasso
- Invert Lasso
- Pit Modelling
- Export to 3D
- Viewing the 3D object in explorer

Each dataset that is created is slightly different, so the exact number of times you need to lasso will vary. You need to perform a tight lasso around each of the "holes".

First area - left click on cscan then press "q"

Left click around the hole, following the shape of the hole, and right click to finish.

It is advisable to use the zoom-in (🋸) around the area to lasso accurately.

Lasso all subsequent areas, remember to hold SHIFT down when starting each lasso so you keep the previous areas.

Once all areas have been lasso'd -> press ALT - Q to invert the selection

Then interpolate missing data by -> Menu - Tools - Lasso - Interpolate Missing Data

This creates a new dataset called "modified"

This dataset may require further "cleaning" up in and around the area of the hole(s), this is partly due to the way these example datasets are created, but also you can get noise in areas of steep corrosion which can be interpolated out. You do this by:

• Zoom in on the area of interest and press the "x" key to remove any individual pixel values.







Scan before missing data interpolated

The next step is to view the data in 3D - the area you select may be different from this, but for this example we will extract a full strip of the pipe, you do this by:

- Menu Tools Lasso Clear
- Select the "modified" dataset in the cScan selection ٠
- Press q and left click at approximately 100,320 on the scan
- Hold down SHIFT and move directly down to below the corrosion (100, 175) and left click. •
- Release the SHIFT key and right click
- Click on "w" to save the lasso area.



Creating the full strip lasso

Scan after missing data interpolated

The full strip lasso'd



Selecting the Pit Modelling View 🕅 from the toolbar shows a plot similar to above. The horizontal and vertical slices can be dragged, or keyboard arrows, to see different sections of the holes.

To view in 3D you need to:

- 1. Select the Show 3D checkbox
- 2. Select "None" from the Interpolation Method.

The algorithm uses edge detection techniques to identify the edge of the hole, and create a mesh which sits between the surface, this method is not exact, but avoids the issue where you can see "inside" the section.





Viewing the 3D object:

- Menu Help Obline viewer to open the .obz file
- Control Panel CScan Options Compress 3D OBJ -> set to false
 - Then you can open the .obj file in Windows 3D viewer.



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