



Do Structured Extraction

INTRODUCTION

When building parts from the Data Part Loader dialog for structured parts (EnSight6 structured parts, EnSight gold structured parts, PLOT3D parts), there is some flexibility in what is actually extracted. If the model contains iblanking, then you have control over which iblanking domain to use, namely Inside, Outside (blanked out), or All (which ignores the iblanking). If no iblanking in the model, the domain is All by default. You can extract all or portions of zones at original or coarser resolutions, do the extractions on single or multiple zones, extract planes at every delta value within a zone, etc.

BASIC OPERATION

When extracting the domain parts, whether iblanked or not, some (but definitely not all combinations) of the options include:

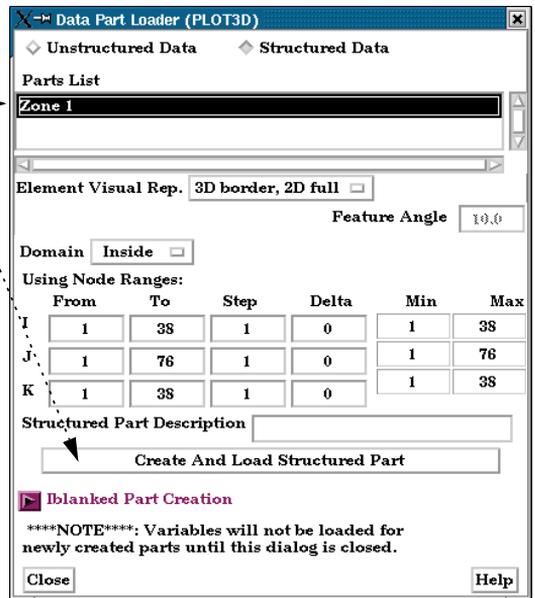
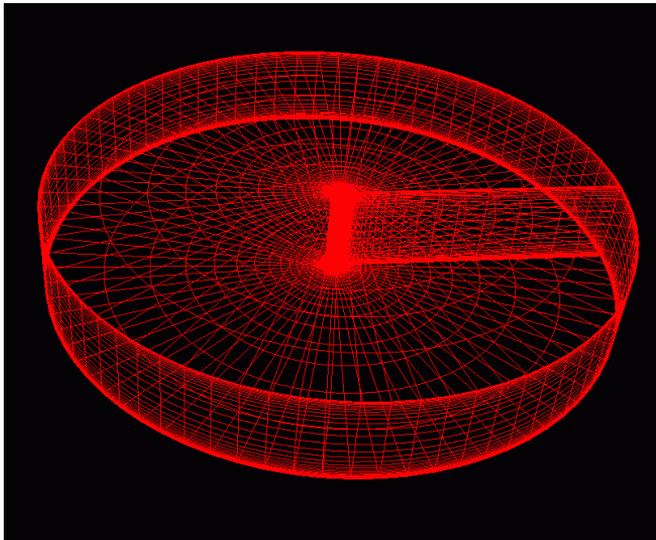
Extracting a complete zone at original resolution,

1. Select the structured zone desired.

Optionally you can change the domain and provide a part description.

2. Hit the Create And Load Structured Part button.

The part will be created and shown in the graphics window. In the example below, it is shown in border representation mode.





Extracting a complete zone at coarser resolution,

1. Select the structured zone desired.

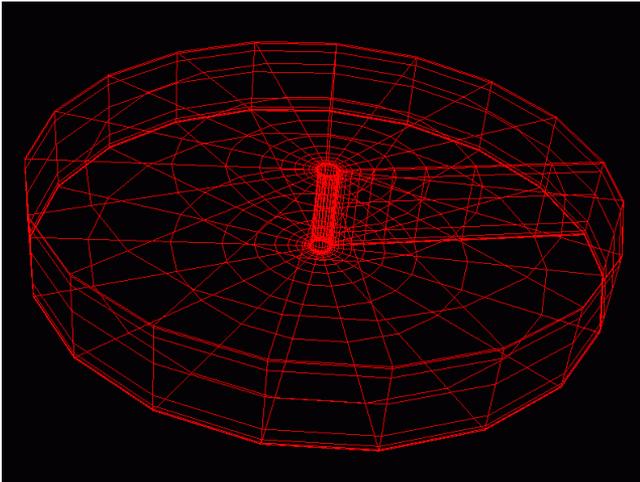
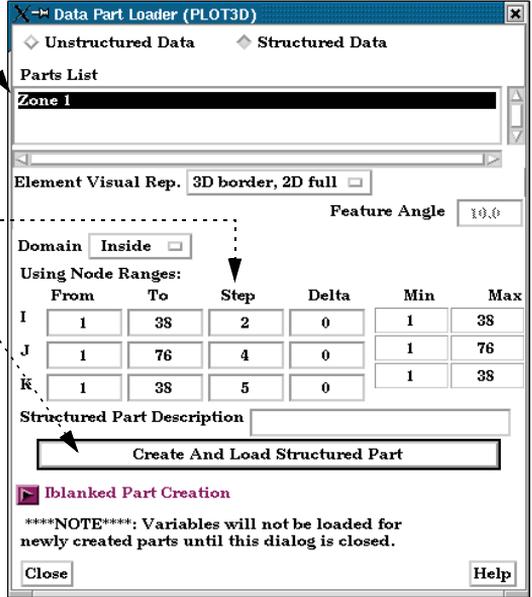
Optionally you can change the domain and provide a part description.

2. Modify the Step values.

These should be positive integer values. A step of two means to deal with every other plane, a step of four means every fourth plane, etc.

3. Hit the Create And Load Structured Part button.

The part will be created and shown in the graphics window. In the example below, it is shown in border representation mode. Note that it is considerably coarser than the previous because step values of 2, 4, and 5 were used in the ijk directions respectively.





Extracting portions of a zone,

1. Select the structured zone desired.

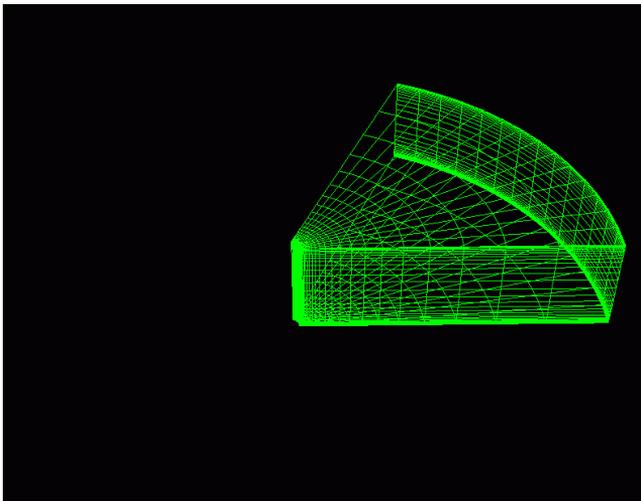
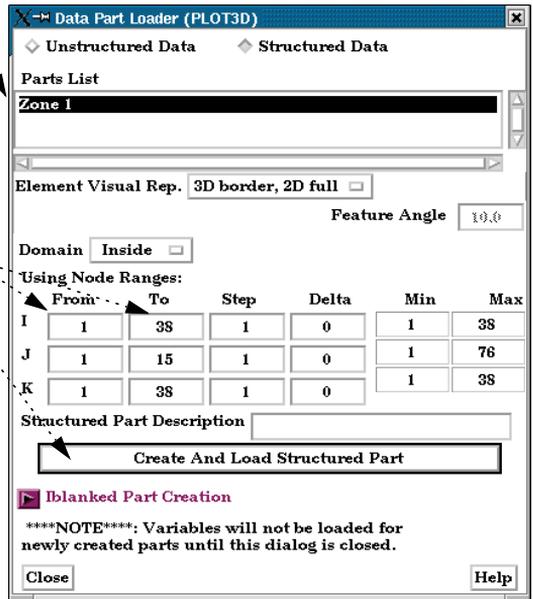
Optionally you can change the domain and provide a part description.

2. Modify the From and To values.

These can be anything between the ranges shown in the Min and Max columns. By default they will be the entire range, but you can modify them.

3. Hit the Create And Load Structured Part button.

The part will be created and shown in the graphics window. In the example below, it is shown in border representation mode. Note that you now get a portion instead of the whole. Note also that we got original resolution because we set step values back to one. The step values can be other than one, and your portion will be at the coarser resolution.





Extracting multiple planes within the same zone (these become unstructured),

1. Select the structured zone desired.

Optionally you can change the domain and provide a part description.

2. Modify the From and To values so that one dimension is a plane.

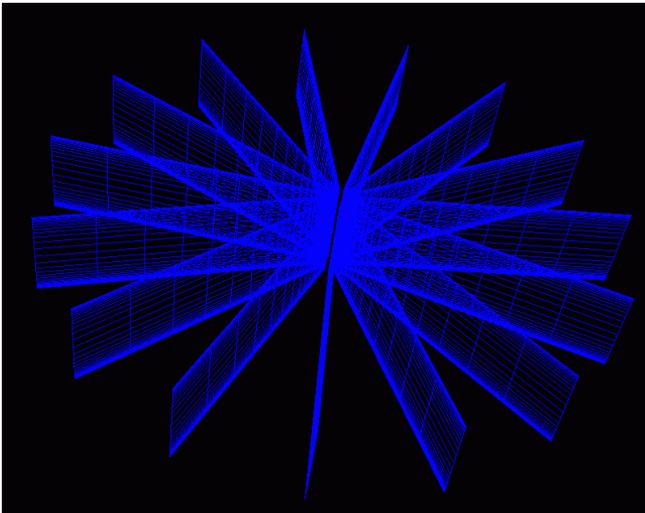
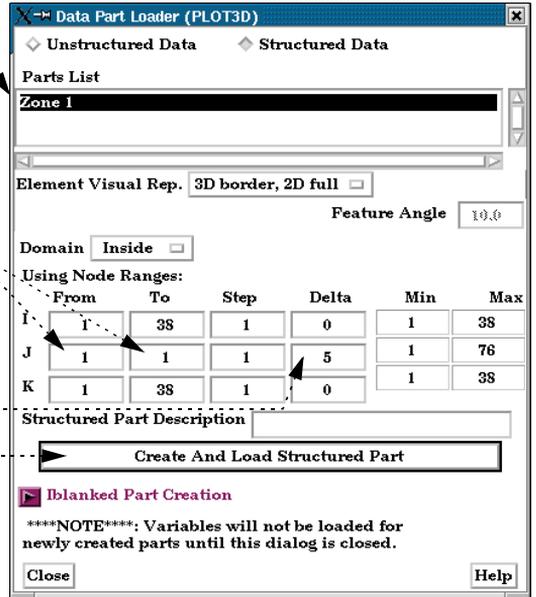
One of I, J, or K must have the same values for both From and To - indicating a plane in the other two dimensions.

3. Enter a value in the Delta field for the dimension that is a plane.

Only one of the Delta fields may be non-zero, and it must be one where the From and To values are the same.

4. Hit the Create And Load Structured Part button.

The part will be created and shown in the graphics window. In the example below, it is shown in border representation mode. Note that you now get an IK surface at J = 1, 6, 11, 16, 21, 26, ...





Extracting the same portions over multiple parts,

1. Select the structured zones desired.

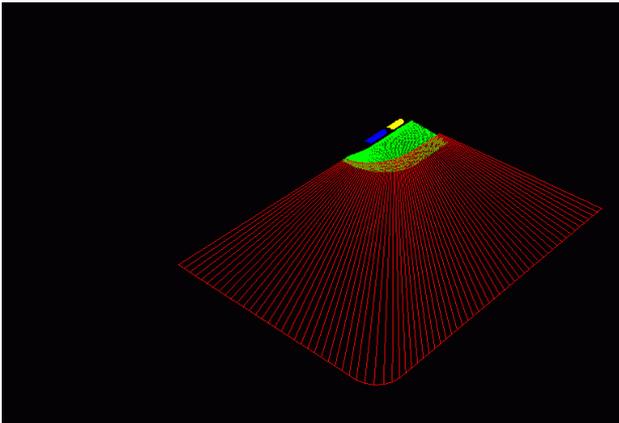
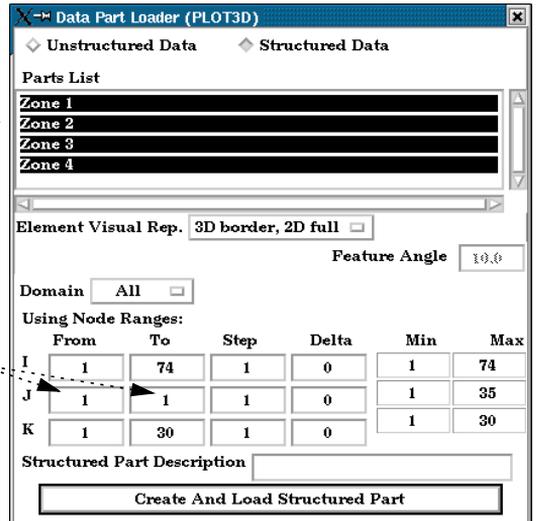
Optionally you can change the domain

2. Modify the From and To values.

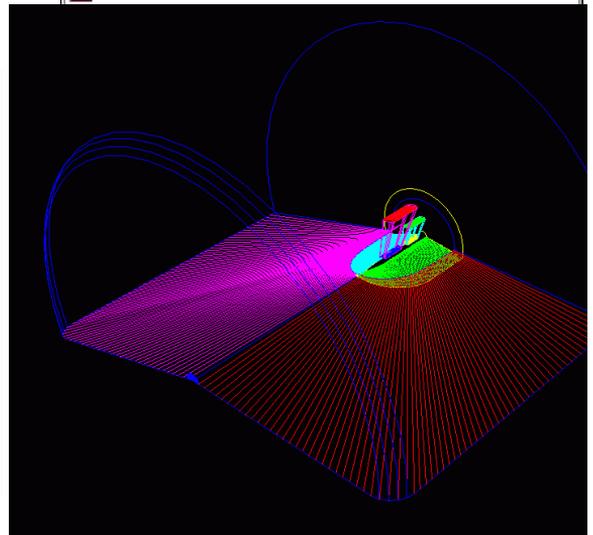
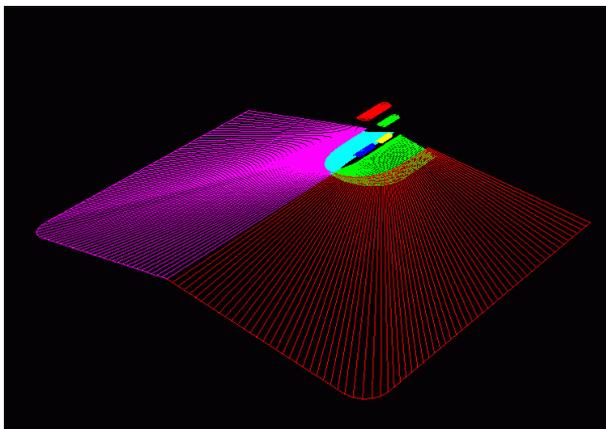
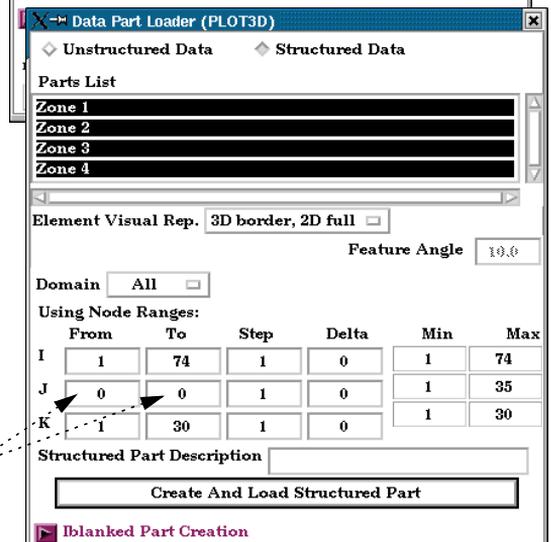
These can be anything between the ranges shown in the Min and Max columns (which will now be the min and max of all parts selected). By default they will be the entire range, but you can modify them. Additionally, "-1" is a valid entry, indicating the last plane. Minus numbers are ways to specify the plane from the max back toward the min, thus -2 equals the next to last plane. (Note: Zero is treated the same as -1)

3. Hit the Create And Load Structured Part button.

In this example, 4 parts will be created, and they will each be the full extent IK plane at J = 1 for each of the four zones. Note that the IK ranges can actually vary per part because the max is specified, but each zone may be less than the max.



In our example, we then changed From and To to be "0", thus extracting the last plane in each zone. Note the image below. The image at the right includes complete zones that were extracted, but shown in feature angle representation so you get the feel of the complete zone.





Extracting unstructured iblanked parts.

1. Select the structured zones desired.

Optionally you can change the Domain, From, To, and Step values.

2. Hit the Create And Load Structured Part button.

In this example, 4 parts will be created, and they will each be the full extents at original resolution. Iblanking for the domain will be ignored.

3. Open the Iblanked Part Creation turndown.

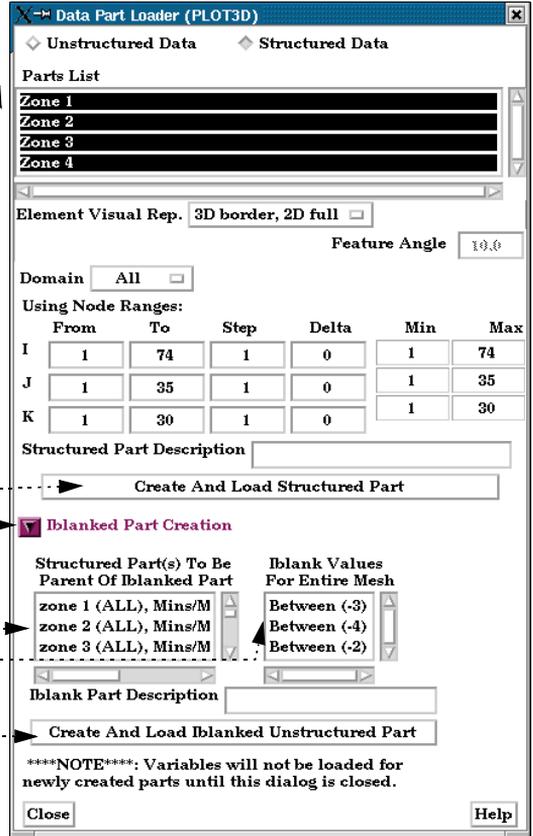
4. Select from the domain parts that you have previously created.

5. Select the iblanking value to use.

Optionally you can specify your own name for the part that will be created.

6. Hit the Create and Load Iblanked Unstructured Part button.

This will create an unstructured part consisting of the elements which have the selected iblank value from the selected parts.



SEE ALSO

- [How To Read Data](#)
- [How To Read EnSight Gold Data](#)
- [How To Read EnSight 6 Data](#)
- [How To Read PLOT3D Data](#)

User Manual: [Using Node Ranges:](#)