Ever wished you could easily create iso-surfaces from data points and save them as DXF-files?

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Iso-surfaces of Map3D results created with multiple grids and exported as points, many thanks to Ben Barsanti for playing with me to fine tune the iso-surface capability and providing the data file.

Creating iso-surfaces cannot get any simpler

Iso-surface creation is complex in the few programs that support implicit modelling. GEM4D largely automates the process and intelligently select appropriate set-up parameters, all you have to do:

- Press the "Marker" button in the top toolbar to load a comma- or TABdelimited file that is formatted as Easting, Northing, mRL, DataColumn1, DataColumn2 ...
- 2. Select a column to colour code in "*DataColumn*" to activate the iso-surface capability.
- 3. Check the "Iso-surface on DataColumn" checkbox.
- 4. Drag the slider to dynamically and instantaneously change the iso-surface according to the selected value, or fill in a specific value in the text box next to the slider.

- 5. Press the **"Save DXF"** button below the slider to save the iso-surface as a DXF-file.
- For a step-by-step explanation with screenshots go to <u>My blog</u>.
- A fully functional GEM4D Beta is available free of charge from the <u>GEM4D</u> <u>web-page</u>.
- Previous newsletter are available from the <u>BasRock Facebook page</u>.



What happens behind the scenes?

GEM4D automatically does the following tasks for you:

- Identify the file as comma or TAB-delimited and load accordingly.
- Test if the first line is a header line and use the data column names.
- Use the selected column as the input for the iso-surface creation.
- Do tests on the data file to determine if the format is correct, and provide feedback if problems are found.
- 5. When you check the isosurface check box; GEM4D creates a regular grid, interpolates the values with inverse distance, and create the iso-surface triangulation within seconds.



Can I hide the points?:

Yes, hide the data points with the "Hide all" button.

Can I change the slider range?:

Yes, if you prefer other start and end values:

- Change "Mode" from "Automatic" to "Manual" to manually change the start and end values.
- Changing the "Value start" and "Value end" values to your preferred values.
- Uncheck and recheck the "Isosurface on DataColumn" check box to recreate the iso-surface.
- 4. Hide the data points with the "*Hide all*" button.

Can I change the iso-surface resolution?:

 GEM4D inspects the data file and estimates the best interpolation search radius to use for the file. This can be changed with the second dropdown box below the slider. Yes, you can change both the isosurface resolution and interpolation search radius with the drop-down boxes below the slider. Play with combination of these two variables to get the best iso-surface for your specific data set.

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