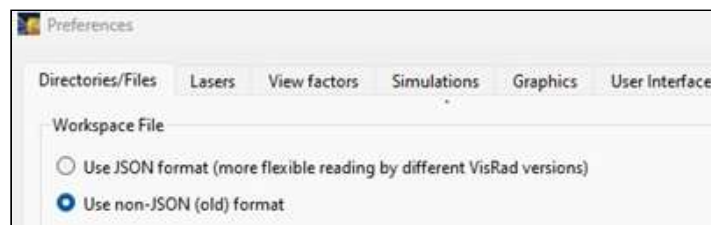


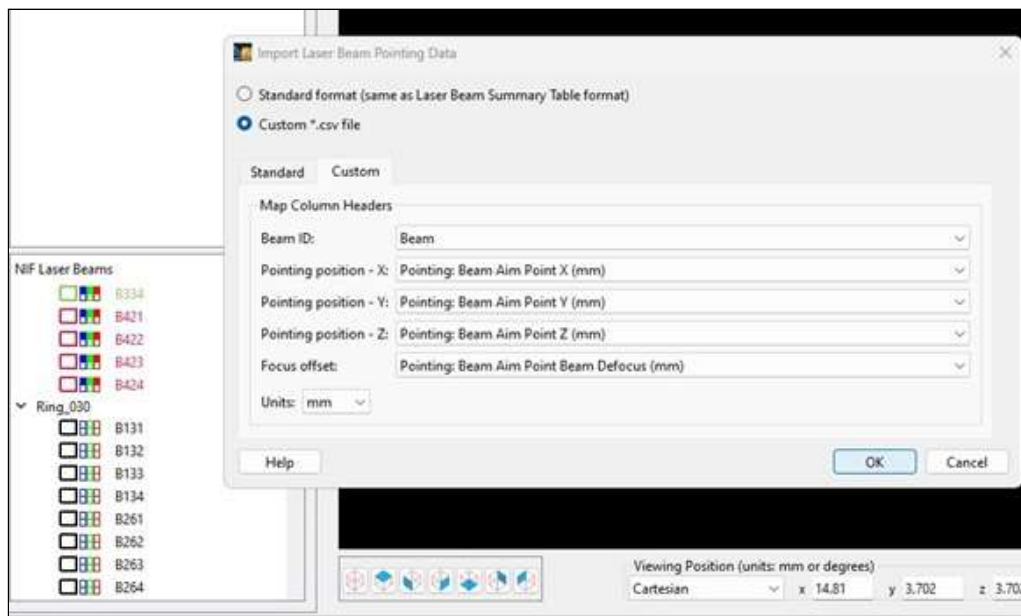


Revisions for VISRAD 21.0.0

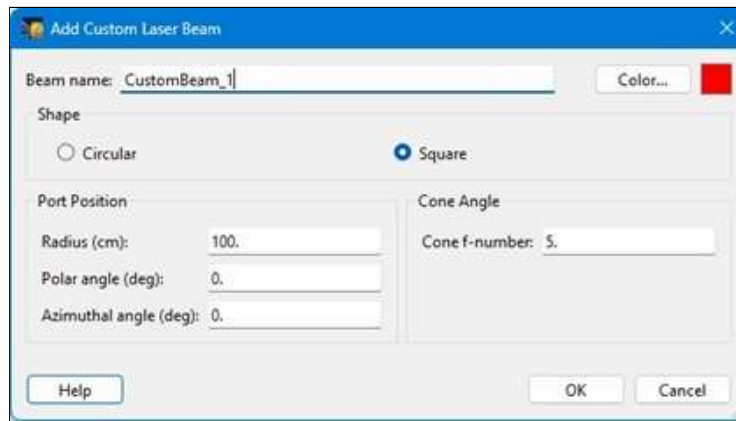
- Support for utilizing JSON-formatted workspaces has been added.
 - This option provides better support for reading/writing workspaces that use different versions of *VISRAD*.
 - JSON-formatted files can be readily modified using scripting tools such as Python.
 - To turn this option off, check the "Use non-JSON format" button on the *Directories/Files* tab of *Preferences*. By default, this option is now turned on.
 - When saving a workspace that was originally read in using the old (non-JSON) format, a warning is presented notifying the user that it is now being saved to a JSON-formatted file. (This warning can be turned on/off in the *Warnings* tab of *Preferences*.)



- The OpenGL graphics in each of *VISRAD* graphics widgets has been updated to utilize virtual buffer objects. This was done in order for *VISRAD* to work effectively on more modern computer monitors and graphics acceleration hardware.
- Updates were made to facilitate importing pointing data from NIF SST files. When importing data:
 - the widget that pops up has the columns set as shown in the image below
 - the reference coordinate system for the beam pointing is set to "Target Chamber"
 - the beam power is turned on or off based on whether pointing data exists for that beam



- *Custom Laser Beams*: The ability to add *square* custom laser beams has been added. Previously, custom beams were assumed to be circular. When adding a custom beam, select either *Circular* or *Square*. Once added, the shape cannot be changed.



- For the 2-D target components *Disk*, *Rectangle*, and *Spoked Disk*, when using a *Non-Zero Wall Thickness*, an option to place the *center* of the wall at the location specified in the *Object Position Parameters* tab has been added. To utilize this, check the 'Place center of wall using object position params' check box on the *Size/Gridding* tab.
 - If this box is *not* checked, the primary wall of the 2-D component is placed at the location specified in the *Object Position Parameters* tab, and the opposing wall will be placed using an offset defined by the *Wall Thickness*.
 - The *VISRAD* documentation has been updated to better describe the effects of a *Non-Zero Wall Thickness* on the grid.
 - Note that for *Sphere*, *Cylinder*, *Cone*, *Box*, *Torus*, *Cylindrical Hohlraum*, *Cylindrical Halfraum*, and *Rugby Hohlraum* objects, the grid dimensions (size) define the outer wall(s) of the object. The inner wall(s) are located inward by an amount specified by the *Wall Thickness*.
- A *Geodesic Sphere* has been added as an option for a *Target Component*. This object has triangular surface elements that are more similar in area near the poles and equator, and therefore may be more suitable to use in radiosity calculations than the normal *Sphere* object.



- A button to reset viewing parameters to their default values has been added to the *Main Window* toolbar. When the *Set Home View* button (🏠) is pressed, the *Scene* position is set to target chamber center, and the *Eye* position is set to its default value.
- The *Target Assembly Viewer* is now available to all users when the target chamber is either OMEGA or OMEGA EP. This shows viewing angles and measurements specifically requested by the target fabrication team at the University of Rochester.
- The use of "Transparency" for *Laser Beams* has been updated to be consistent with the use of the same term for *Target Components*. A value of 1.0 now means fully transparent, and 0.0 means opaque. The default value remains at 0.5.
- The color bar overlay in the *Main Window* is now hidden whenever the display is reset to showing the grid (*Display | Grid* menu item).
- Bug fixes:
 - Bug that occurred for the measuring tool and grid lines in the *Main Graphics Frame* has been fixed. This bug occurred only in ver. 20.0.0.
 - Fixed problem with generating grids for a *Cylinders* with non-zero wall thickness, where some inner polygons were missing. The changes have a minimal effect on computer laser deposition or radiosities in cases where the wall thicknesses were small (compared to the cylinder radius). The missing polygons size was equal to the wall thickness. In cases that use a large wall thickness, the effect is more noticeable.
 - When editing the *Size/Grid* parameters for multiple *Target Components*, if the surface normals parameter is not the same for all components, both buttons are set to be unchecked, and therefore the normals parameter will not be changed unless one of the buttons is selected.