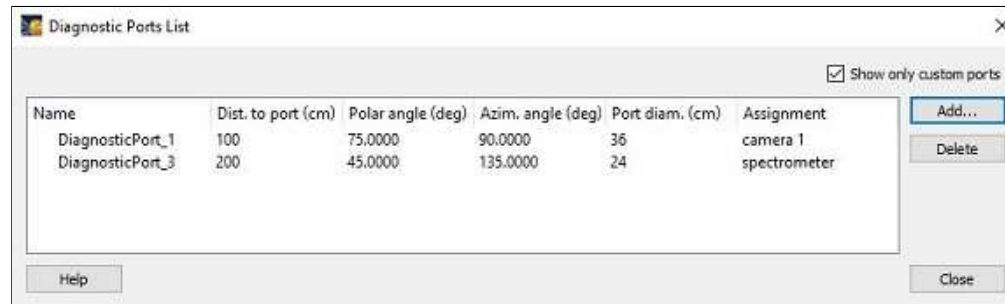


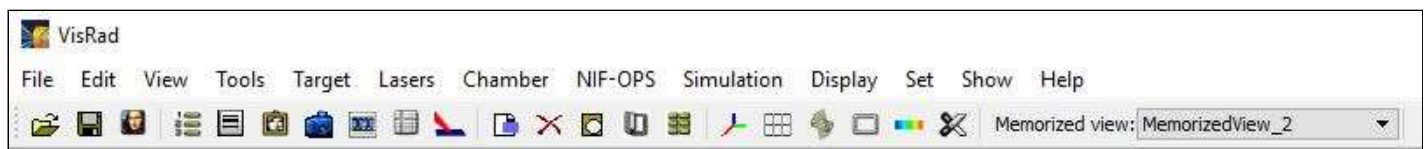


Revisions for VISRAD 17.0.0

- The ability to set up *Custom Diagnostic Ports* has been added. Users can now add, delete, and edit *Custom Diagnostic Ports*. Preconfigured diagnostic ports for target chambers, however, cannot be altered. To add or edit *Custom Diagnostic Ports*, select the *Edit | Diagnostic Ports List* menu item.



- When running simulations in batch mode, a copy of the workspace file is written in the directory specified for output files. This workspace file copy has a name that is the same as the run name, with a ".wvc" extension. The file includes all power source and radiosity data computed during the simulation, and therefore can be opened with *VISRAD* so that results such as *Laser Power Deposited* and *Radiation Temperature* can be displayed.
- A combo box providing a list of *Memorized Views* can now be displayed in the *Main Window* toolbar. The items available for selection are those in the *User Library* list of the *Memorized Views* dialog.
 - To show or hide the box, select the *Show List of Memorized Views* check box in *User Interface* tab of the *Preferences* dialog.



- OMEGA Probe Beams:
 - Support for including the 3ω probe beam has been added to the OMEGA target chamber. This probe beam is redirected from BL-35 and enters through Port P9. It is analogous to the $2\omega/4\omega$ probe beam that is redirected from BL-25.
 - When importing data from the SRF database, when the group name "3w_P9" is encountered, the BL-35 beam is redirected as the 3ω probe beam.
 - Checks for laser beam pointing are now performed for the 2ω , 3ω , and 4ω probe beams (checks for the standard OMEGA beams were added in Ver. 16.1.0). Beam pointing checks can be performed using the *Lasers | Perform Beam Pointing Checks* menu item. When this menu item is selected, a consistency check on the use of the probe beams and BL-25 and BL-35 is performed.
- Upgrades have been made to support view factor calculations with a larger number of surface elements.
 - The total number of elements of the view factor $N \times N$ arrays (N = number of surface elements) is no longer limited to the maximum integer size for a 32-bit computing system. The size is now limited by computer memory.
 - Additional checks have been placed at the start of calculations to attempt to catch memory problems early in the computational process.
 - Saving view factor and transmission fraction data to the workspace file is no longer supported. The savings in CPU time needed to re-compute view factors is now insufficient to justify using large amounts of disk space.

- In *Preferences*, on the *View Factor* tab the check box providing the option to save view factors to the workspace file has been removed.
- *Point-to-Point Distance Tool*: support has been added to compute the center and radius of a circle when three points are selected.

Point-to-Point Distance Tool

Point Positions (Target Chamber coord. sys.)

Geometry: Cartesian

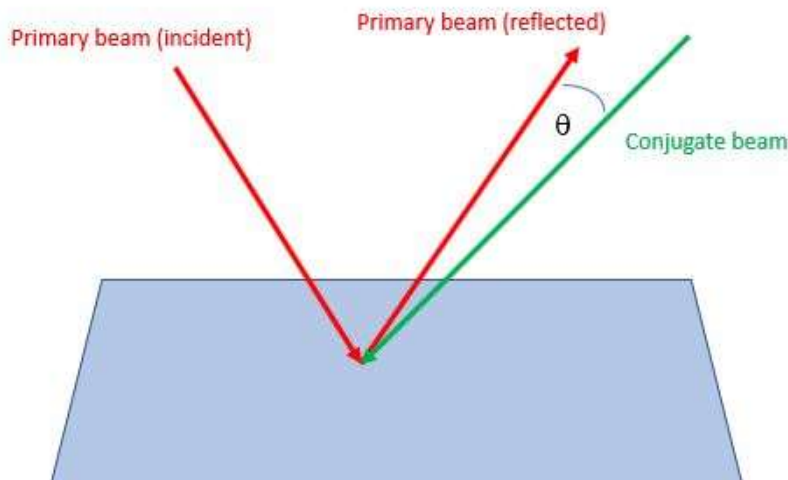
	x (mm):	y (mm):	z (mm):
Point 1:	-5.80045	1.25095	4.95415
Point 2:	-4.44345	0.265034	6.04342
Point 3:	-4.62488	2.86898	4.95415

Results

	Pt. 1->2 (mm):	Pt. 1->3 (mm):	Pt. 2->3 (mm):	
Distances:	2	2	2.828	
Angles:	Pt. 1 (deg): 90	Pt. 2 (deg): 45	Pt. 3 (deg): 45	
Unit normal:	x: -0.4406	y: 0.3201	z: 0.8387	
Circle:	x (mm): -4.534	y (mm): 1.567	z (mm): 5.499	Radius (mm): 1.414

Buttons: Help, Compute, Close

- NIF CMT TaLIS Checks:
 - The calculations previously referred to as " 1ω Footprint" are now called " 1ω Reflection".
 - Support for computing 3ω Reflection has been added. This is analogous to 1ω Reflection.
 - In 3ω (1ω) Reflection calculations, for all surface elements in the target mesh that see two or more blue (red) laser beams, the angles between the reflection of one of the beams (the "primary" beam) and the other beams (the "conjugate" beams) are computed (see sketch below). For each beam cone pair, the minimum of this angle (θ_{min}) computed at each surface element of a target component is tracked. The minimum value for each target component is reported in the *Laser Beam Capture Clearance Report*.



- In the *Main Window*, the menu items *Display | 1ω (or 3ω) Cone Overlap* now shows, for a given surface element, the minimum angle between each reflected beam and incident direction of conjugate beam (previously, surfaces which had two or more 1ω beams hitting a surface element were displayed in red; other surface elements were blue).
 - The reflection calculations are performed using enhanced beam radii parameters that are the same as those used for 3ω (1ω) Clearance calculations (specified in the *Capture Clearance Setup Parameters* widget).
- The NIF-OPS menu is available to all users whenever a NIF target chamber is utilized.
- Calculation of 3ω Reflection is available to all target chambers which have laser systems.

- OMEGA X-TVS/Y-TVS Viewer: crosshairs are no longer visible if corresponding reticle radius is blank.
- Bug fixes:
 - NIF Laser System: When selecting *Lasers | Show All On Beams | <cone color>*, only beams for which that cone color has power on are set to be visible. This also affects beam visibility when pressing a *Set View...* button in the *NIF TaLIS Checks Controller*.
 - When opening a new workspace, the *Picked Surface Nodes* dialog is now closed, and the picked surface ID is reset.
 - Bug has been fixed which occurred when changing the *Reference Coordinate System* for a *GENERALIZED MESH* target component (imported CAD file). This bug occurred when, in the *Object Parameters* widget, both the *Automatically Update Position...* box was checked and the *Set Position Of* box was set to "grid origin".
 - When duplicating a *GENERALIZED MESH* target component, the option for "grid origin" in the *Set Position Of* box is now available.