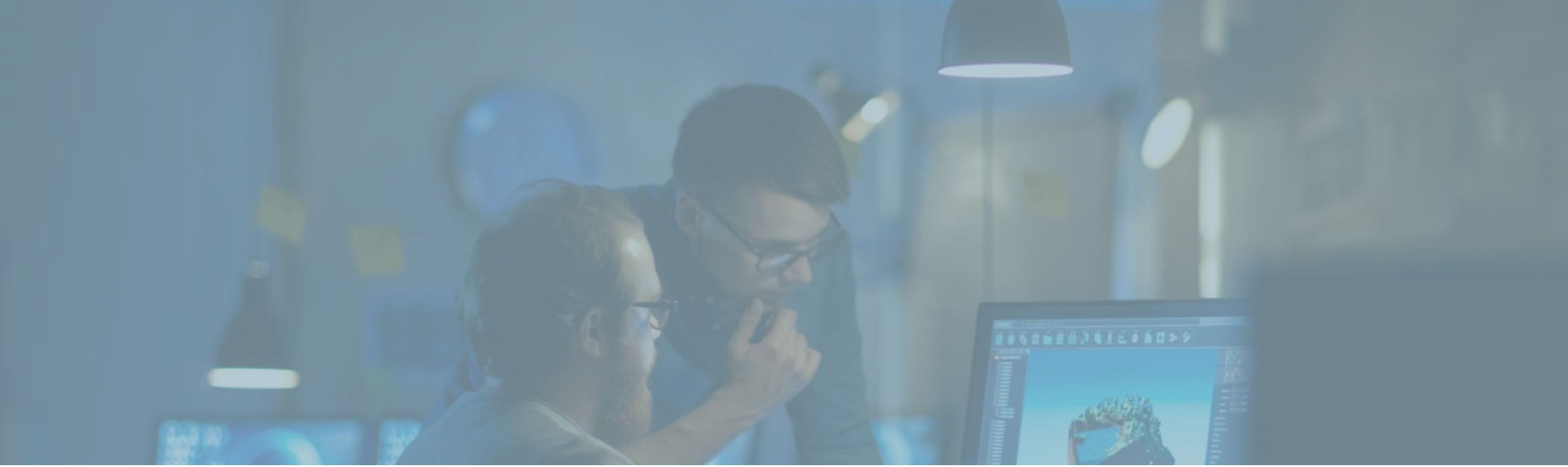

What is New in VCollab 21.7

VCOLLAB

Visual Collaboration Technologies Inc.

VCollab 21.x Enhancements

- **VCollabPro / Presenter**
  - Contour Plot is supported with transparency option
  - Support for Adams Animation
  - Option to add image as Label (2D or 3D attached)
  - Hotspot - Range Cluster : find hotspots based on clusters defined by range.
  - Legend Animation : Contour flow animation
  - Export Fileted CAX: Option to create new CAX with selected elements (based on Nodeset) is provided in Nodeset manager.
  - NodeSet Manager: Create - Box based node selection option is provided. Add adjacent node is supported with adding only next node like Mid Nodes. (Element checkbox).
  - NodeSet Manager: ColorMask – New Transparent and CULL options are provided
  - Axis Triad Placement - Ability to drag and position the Axis Triad using move label icon is provided
  - Part material color support for Lines and points
  - Legend Header: Options show/hide model , Result and instance name
  - Delete Viewpoints and Delete Results : New interface is provided to delete the multiple viewpoints and results
  - XY Plot - Element ID and Nodeset input option are added in the UI
  - Feature Edge Color: Option to display in palette color
  - Find Parts - Model selection is supported for merged models
  - The Pro will launch File Save as dialog to the save the data while closing if the new VP is added or any VP is updated
  - Display | Anti Alias - Added as new function
  - FLEXlm TIMEOUT management

- **Python API Enhancements**
  - New APIs added

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VCollab 21.x Enhancements (contd…)

- **VCollabWeb**
  - HTML/WCAX Export with selected viewpoints
  - Added Support for
    - Adams animation and legend animation.
    - legend transparency.
    - image label and 2D image in Viewpoint
    - keep feature edges in section.
    - Axis position.
  - Enhanced the selected element export with part information.
  - GUI changes:
    - Show/ hide of XY Plot data points.
    - Independent model rotation,
    - fixed animation speed and scale factor
  - Added option to set any viewpoint through query string
  - Bug fixes:
    - Fixed XY Plot curve shape issue and size issue.
    - Fixed animation issue with no instance name (fixed in pro).
    - Fixed 2D table position issue (fixed in pro).
    - Fixed large wcax file with viewpoint image export (fixed in pro).
    - Label position update Issue in Pivot Animation

- **VMoveAdams**
  - Application to generate CAX files from MSC. ADAMS input and result files
  - 21.5 Enhancements (performance enhancements)
    - Option to control tessellation of the Parasolid Objects
    - Option to filter the unwanted time steps
    - Option to set a start time for the Rigid Animation.
    - Option to combines all the parts of the Rigid Body component

- **PyTools**
  - Part hotspots => hotspot for each part
  - Hotspot Table => GUI Support
  - Update Labels => Update all probe labels
  - Export CSV => GUI Support, All instance option
  - View2Background => 3D to 2d image
  - Report Template Editor => Command based Report Template and GUI for editing/creating Report Template

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VMoveCAE Enhancements

- Abaqus, Ansys, Nastran, Marc 2021 support
- Performance Improvements
- Extraction of Maximum and Harmonic complex stresses
- Support for reading HyperMesh tree structure from BDF files
- Fixed the INP-ODB zero frame loading issue
- Support for Abaqus CAREA history data
- Bright colors for default material Colors in CAX
- Support for D3plot loading to use Key file as input groups
  - --lsdyna-input-file=file.key
- Support for Femfat .dma / .univ file formats
- Fix for the GK3D4LN element connectivity issue

- Support to specify the translation of last step/frame using the '_' symbol.
  - --instances="_:_" => Translates last frame of last step
  - --instances=":_" => Translates last frame of each step
  - --instance="1:1,:_" => Translate first frame of first step and last frame of each steps

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VCollab 21.x Enhancements (contd…)

- **VMoveCST**
  - Application to convert the Electro Magnetic Simulation results from CST Studio into CAX
- **VMoveJT**
  - Application to convert JT files into CAX
- **VMoveVTK**
  - Application to convert VTK files into CAX

- **VMoveCAD**
  - 3D Experience (Catia V6) is supported up to 2021x
  - Catia V5 is supported up to R31(V5-6R2021)
  - Pro/E is supported up to Creo Parametric 8.0
  - SolidEdge is supported up to 2021
  - SolidWorks is supported up to 2021
  - Inventor is supported up to 2022
  - UG NX is supported up to NX 1953 series (till NX 1973)
  - Parasolid is supported up to V33.1
  - ACIS up to 2021 1.0

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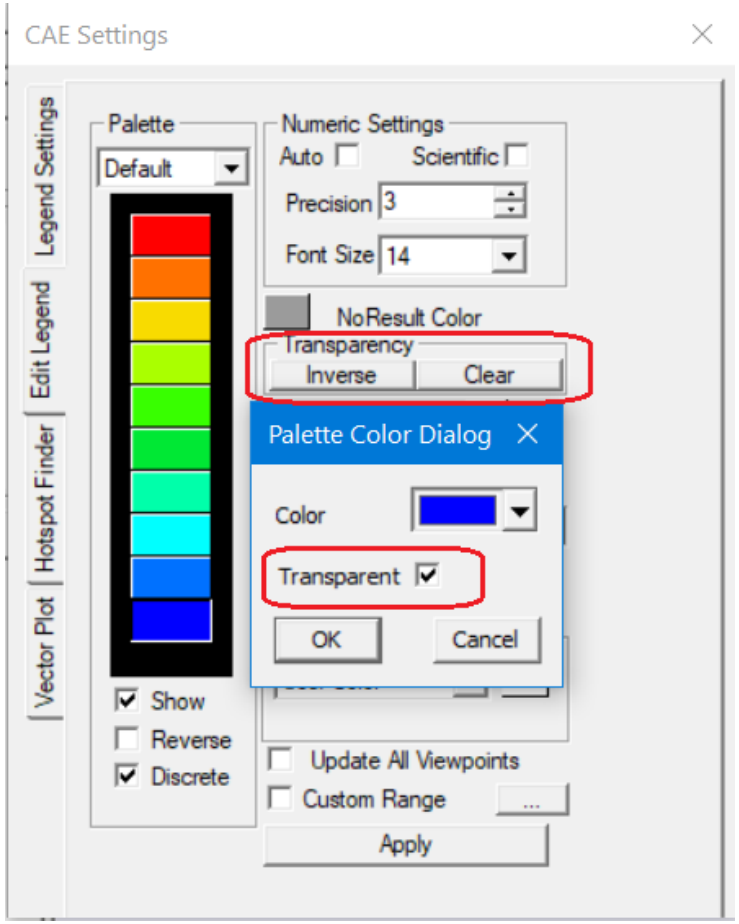
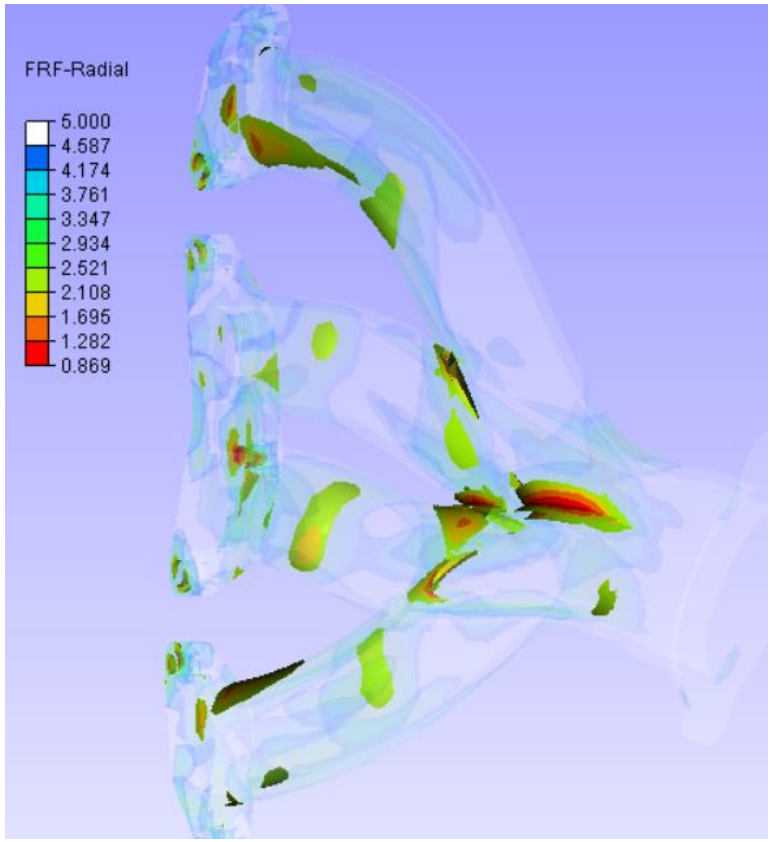
Legend

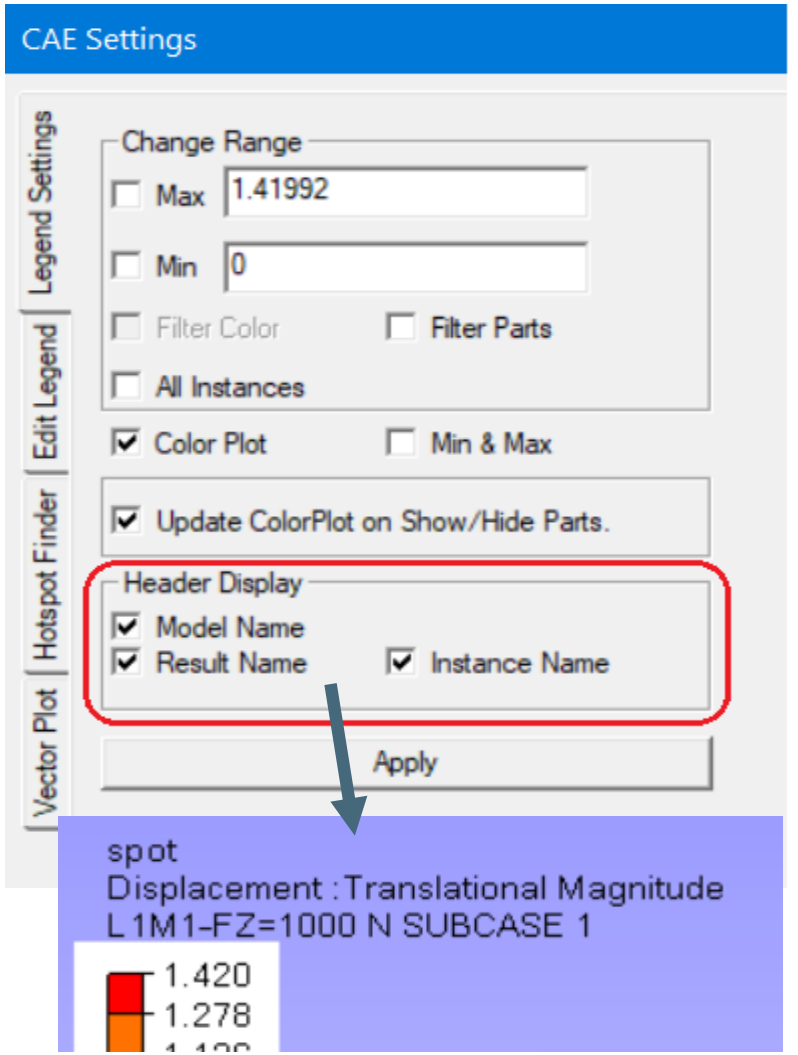
Legend Color Transparency Option:
Possible to set any color to be transparent or opaque. Common transparency value (0-100) is set in options dialog.





Highlight hotspots using transparency

Legend Header Options



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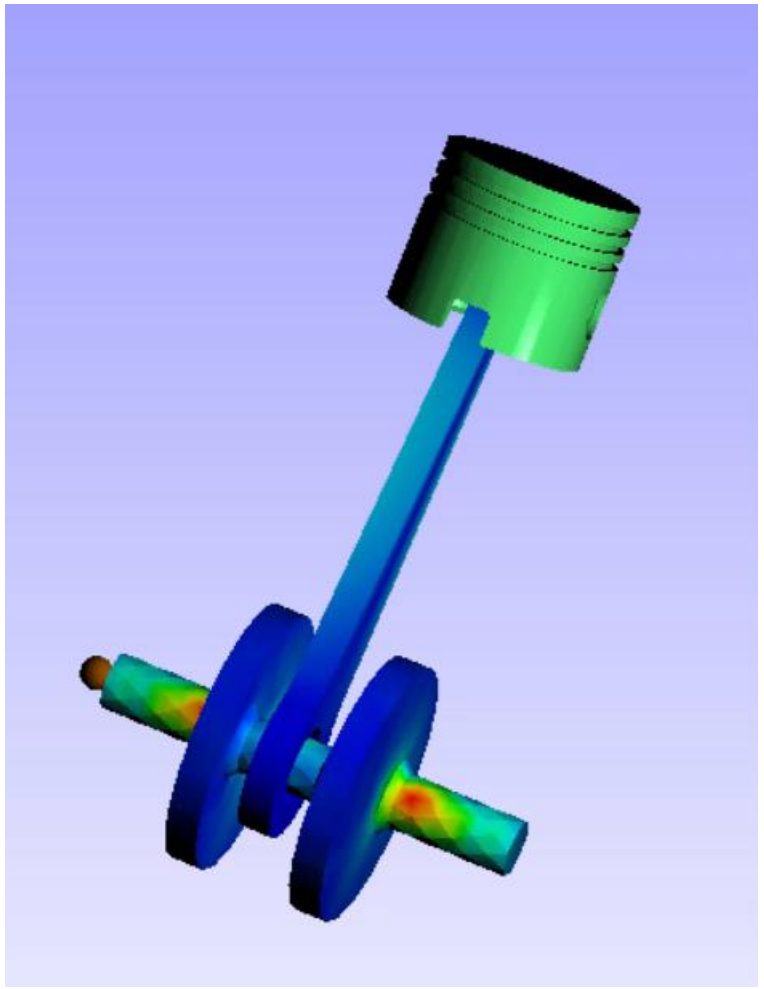
Support for Adams Animation

- VMoveAdams can be used to convert Adams models with part motion model to CAX. These CAX models will have rigid motions (for each part). Some parts (Flex) can also have CAE results.
- VCollab supports both Regid and Flex animations.

- It is also possible merge Marc models to show Adams Co-Simulation.
- Note: Use interpolate option to link two models based on time.
- When number of frames are large use "Skip By" option to reduce number of frames for animation
- "Track Part" option can be used to pivot Rigid body motion.



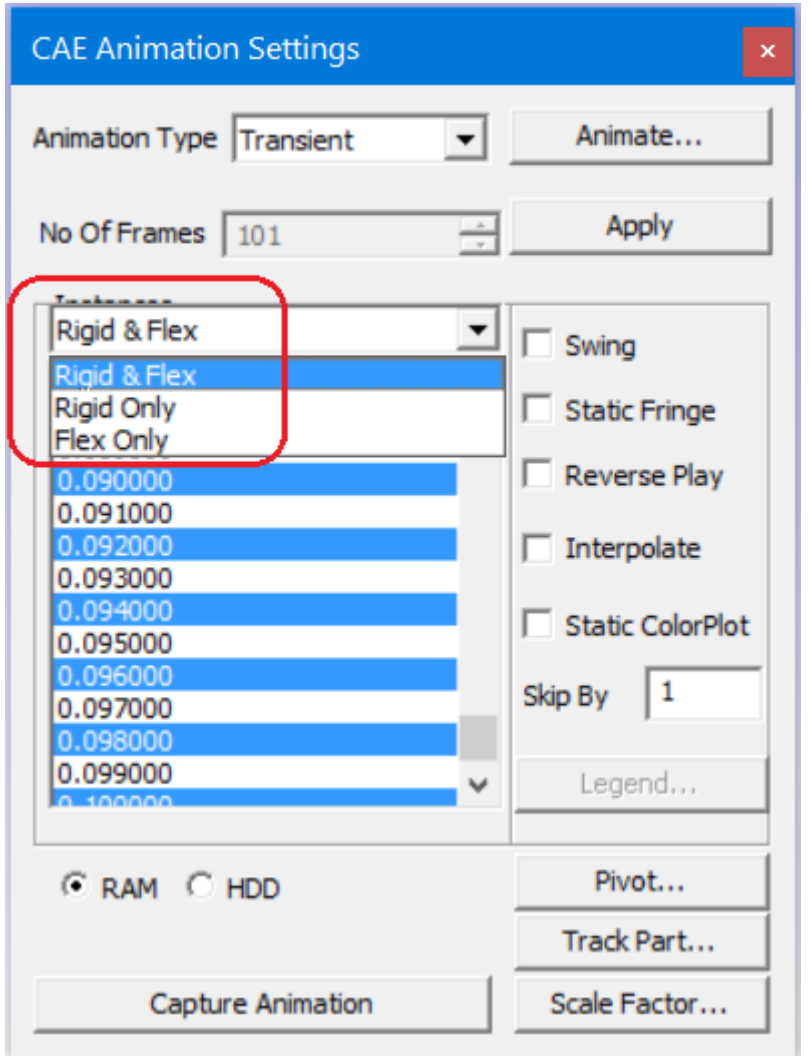


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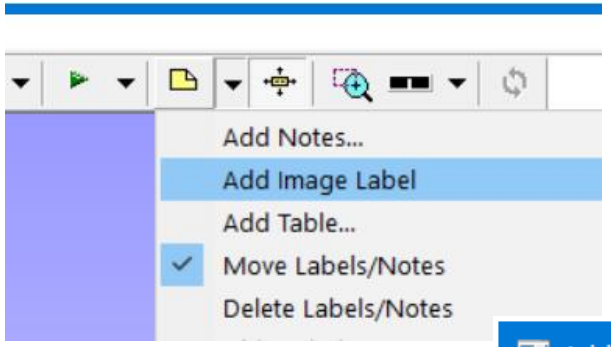
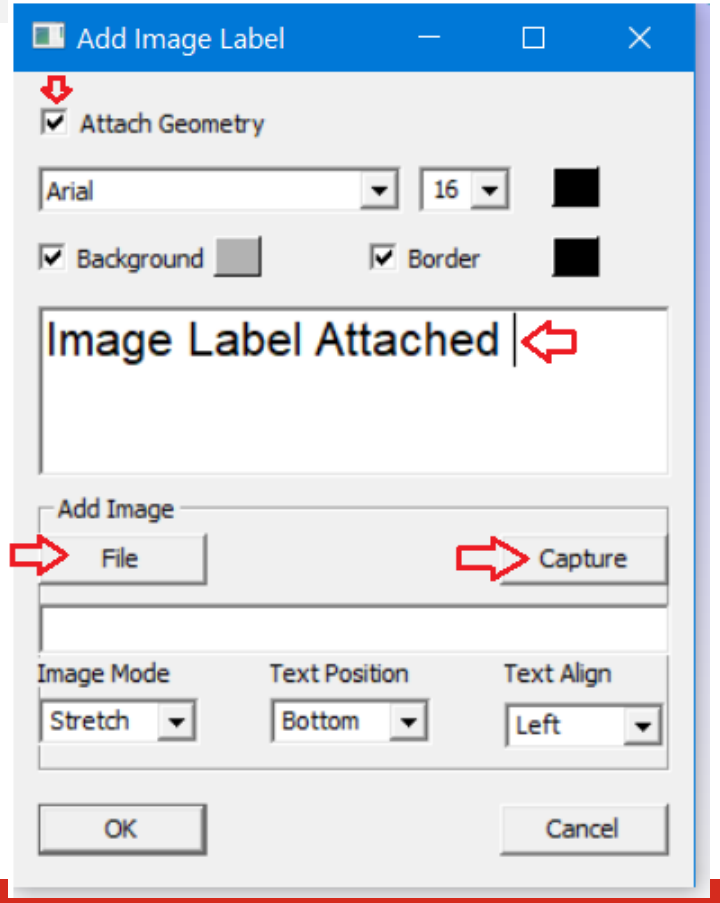
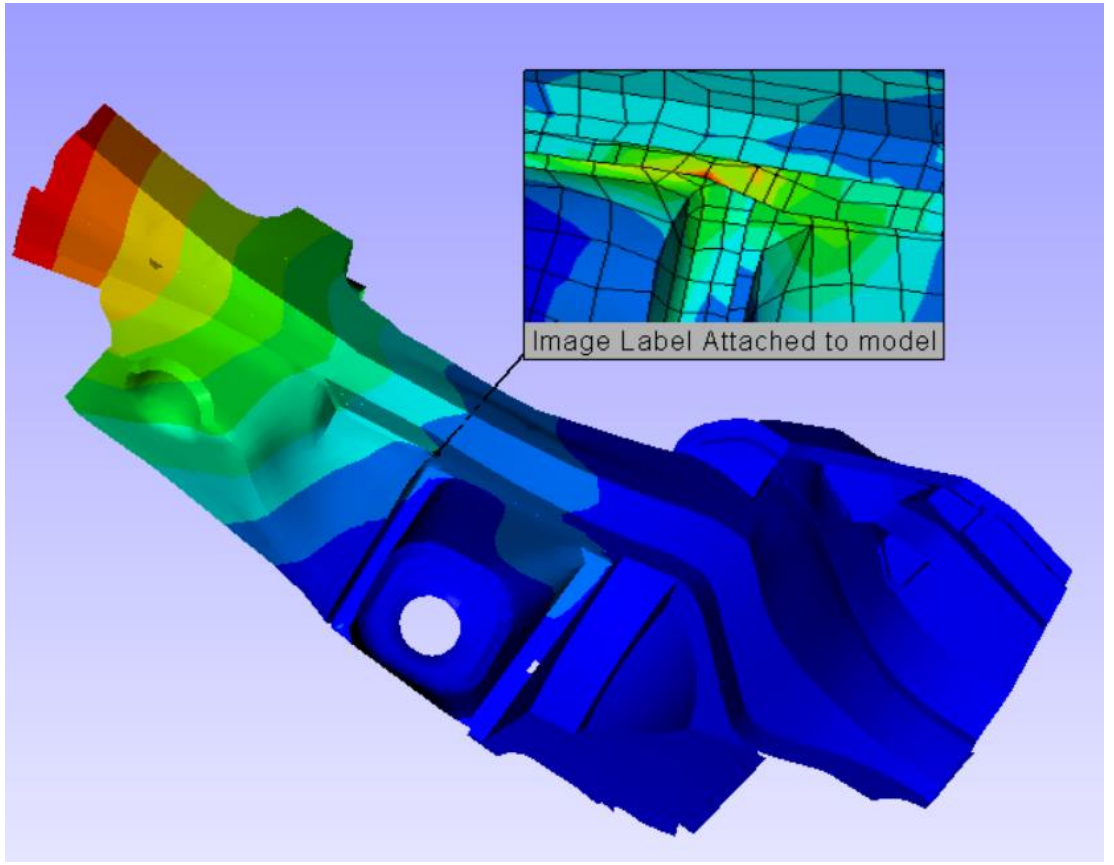
Image as Label (2D or 3D attached)



Add Image Label Option:
Like Text Note/Label, add an image as a label. Label can be attached to a node or can be 2D. Image label can be moved like any other label. Also, possible to resize these image labels.





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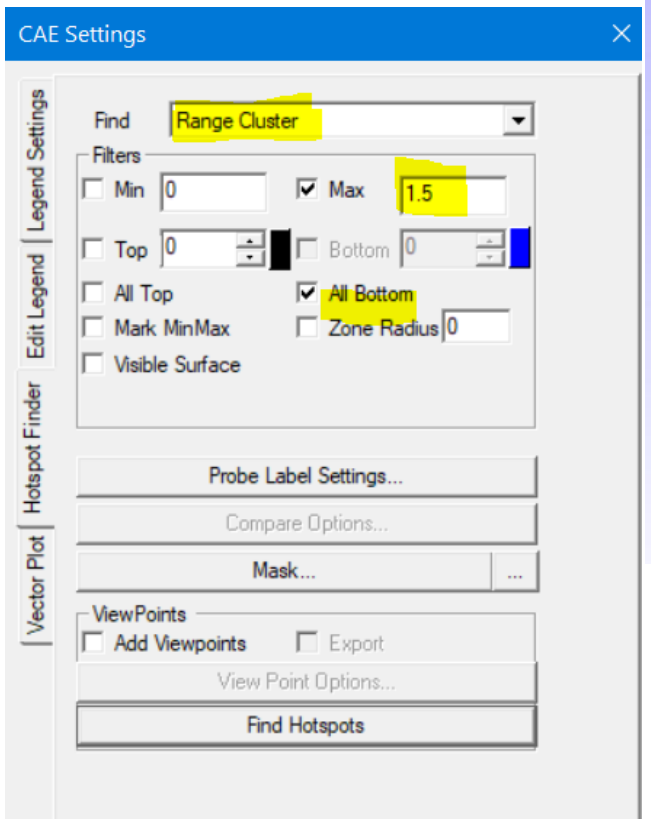
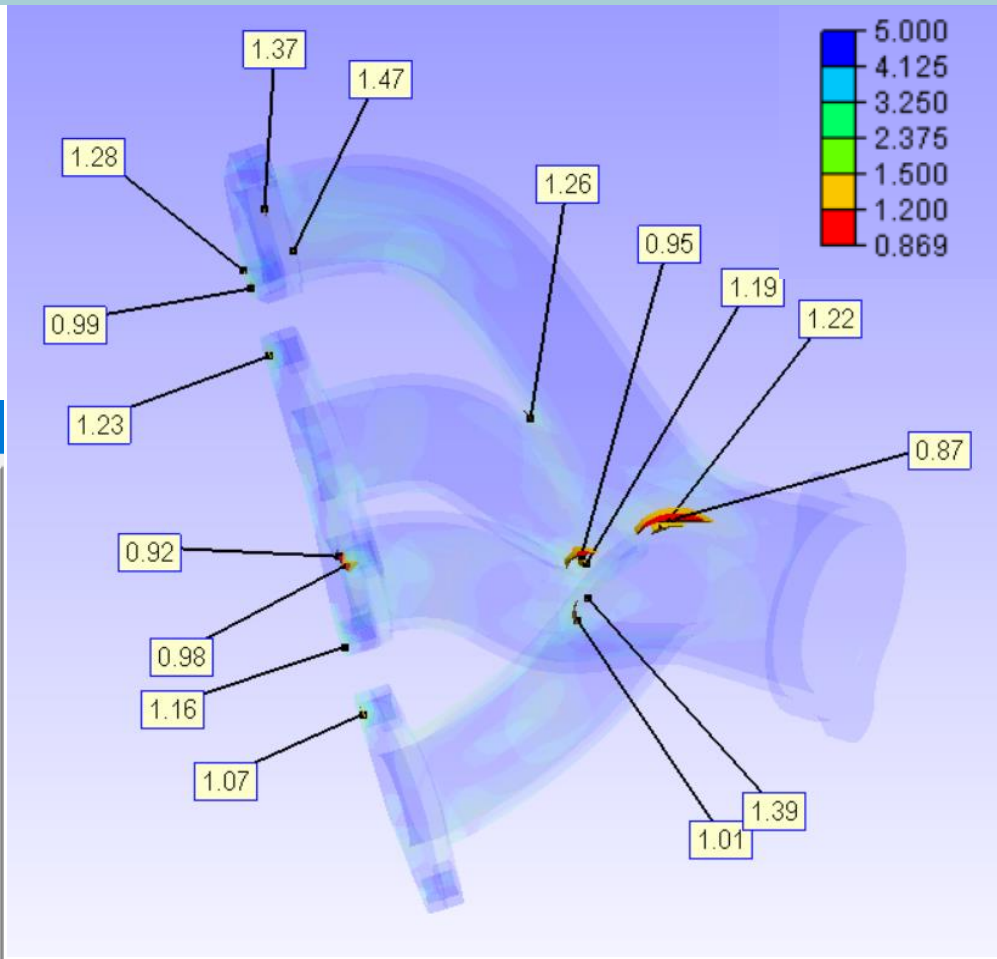
Hotspot - Range Cluster Method

- New method Range cluster, finds hotspots based on clusters defined by range. In this case, Max range is defined as 1.5. Algorithm will group all areas with result less than 1.5 and identify clusters and for each cluster it will show one hotspot.
- One can use transparency to check the formation of clusters.
- This method can identify hotspots close to each other in two sides of a wall.





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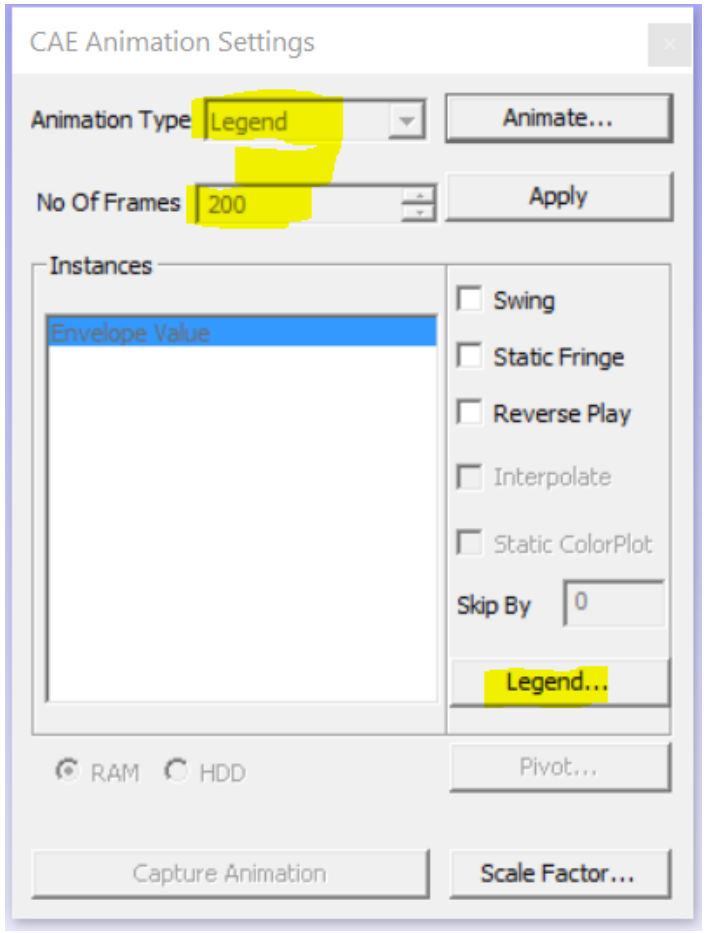
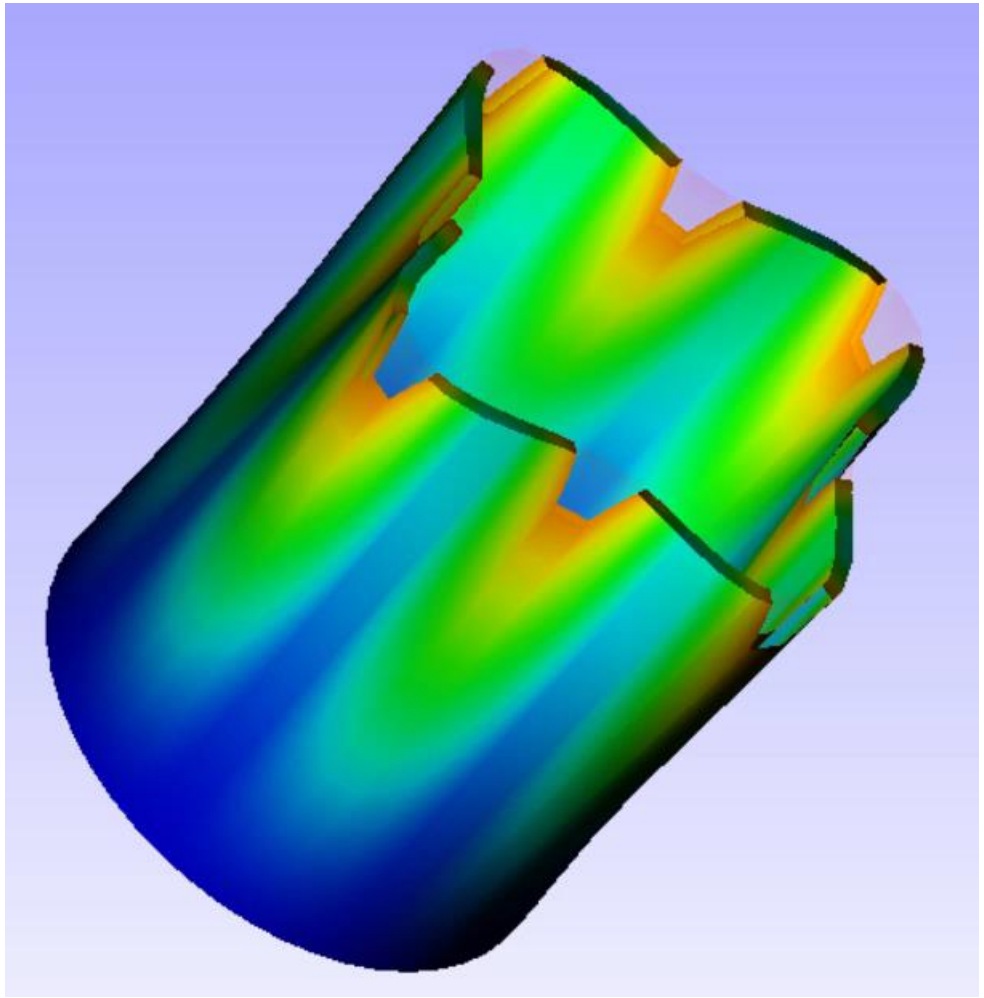
Legend Animation : Contour flow animation

- Legend Animation Type will display the contour colors in a sequence
- This can give flow effect (for results such as fill time)
- No of frames = number of contour colors used





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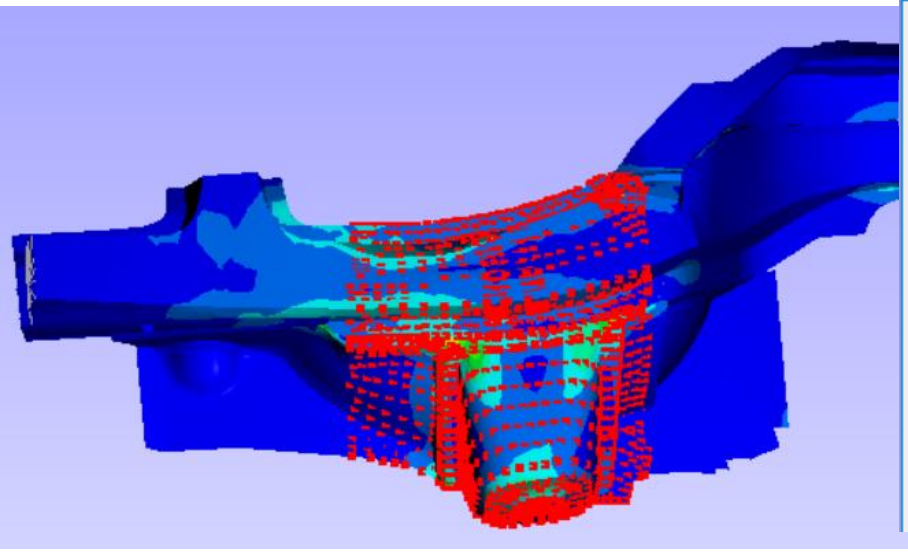
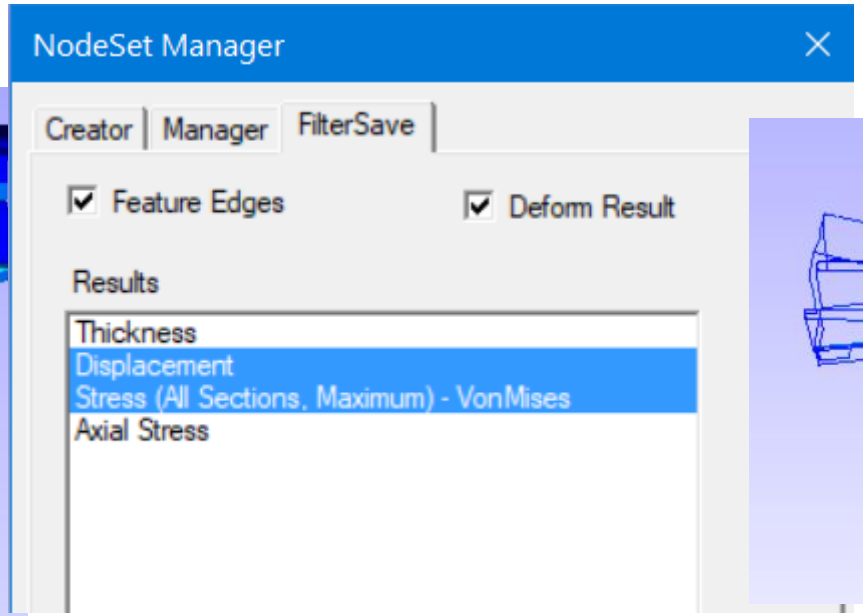
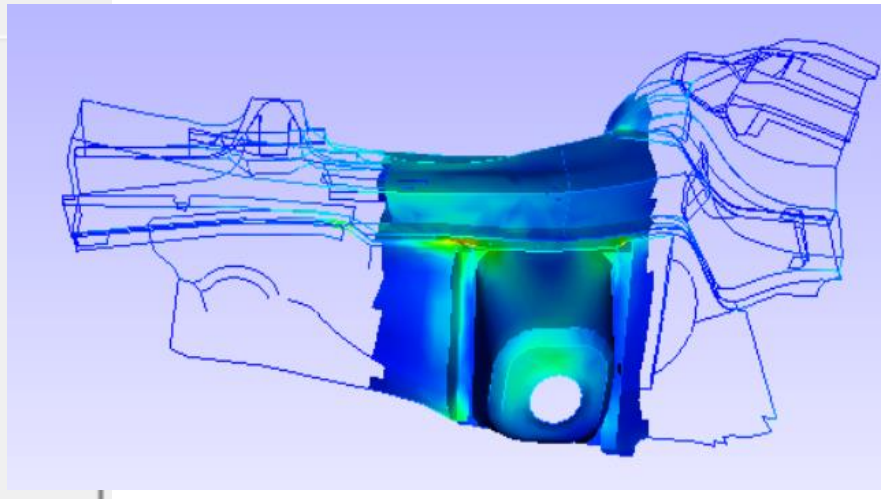
Export Fileted CAX

- Export Fileted CAX: Option to create new CAX with selected elements (based on Nodeset) is provided in Nodeset manager. This option can be used to share small cax/html report with only required area.
- Option1: Select set of nodes in Nodeset Manager (Create) [Do not create nodesets]
  - Select Options in "FilterSave" Tab and select save
    - Feature Edge => Save feature edges as line element
    - Select required results
    - This will save all the elements connected to selected nodes as a new cax file.
- Option 2: Create one or more Nodesets, Set Color plot option to "Cull" => display only active elements.
  - Select Options in "FilterSave" Tab and select save







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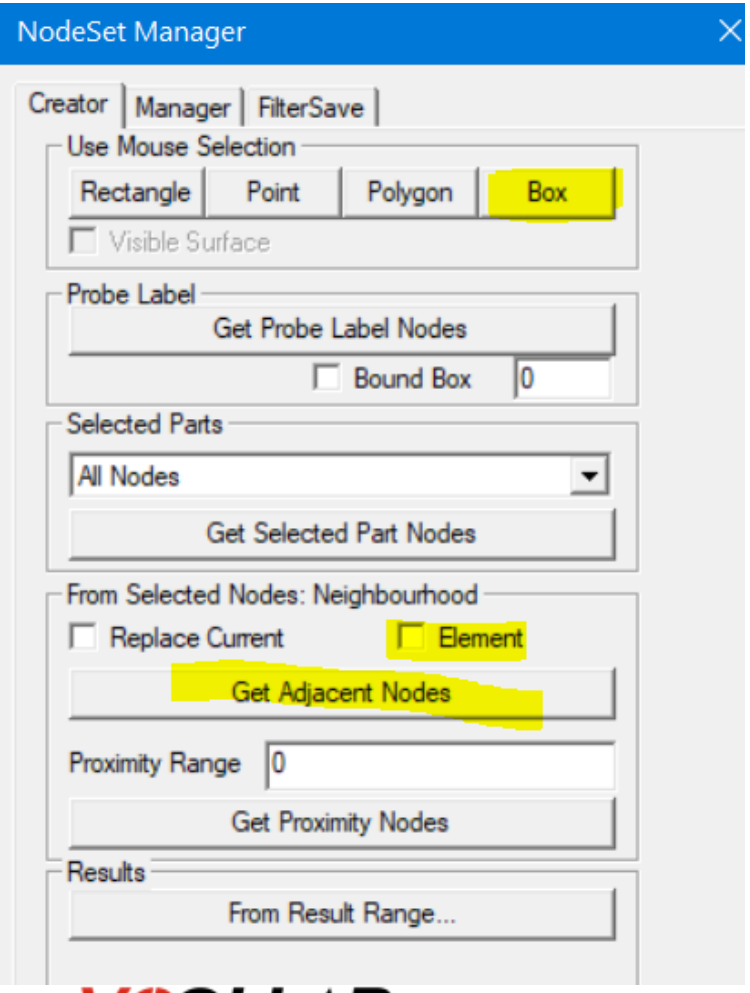
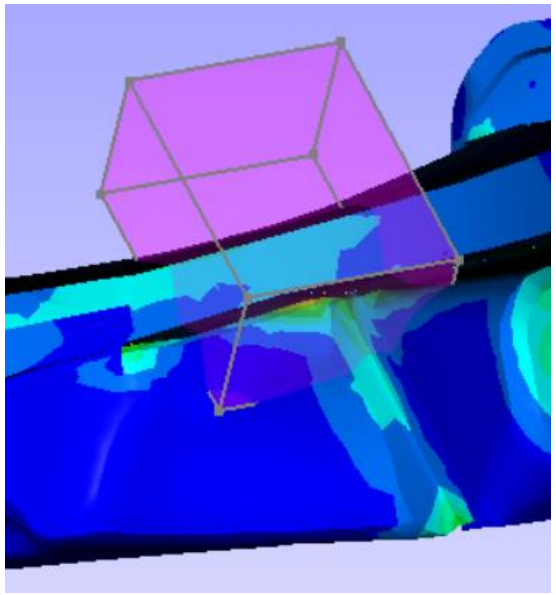
NodeSet Manager Enhancements

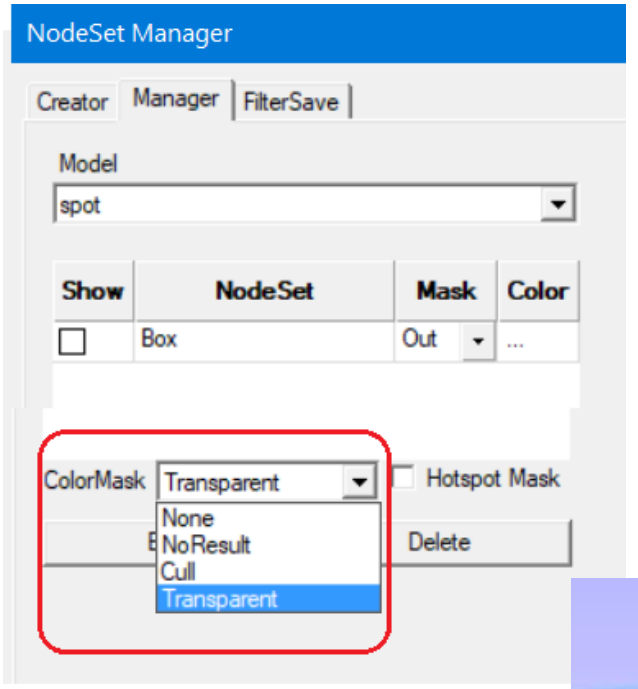
- Box option to select all nodes inside a box.
- Element/Node option for "Get Adjacent Nodes" method
- Cull & Transparent display options for node sets

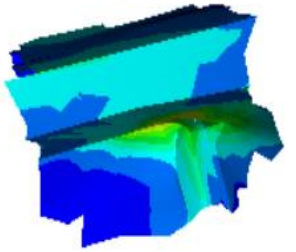




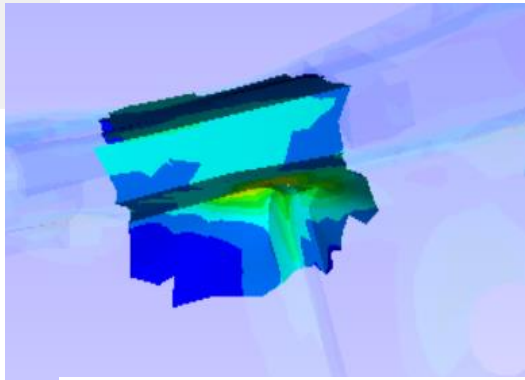
Box Selection

- *Select box, Resize, again select Box*





Cull Option



Transparent Option

Mask Display Options

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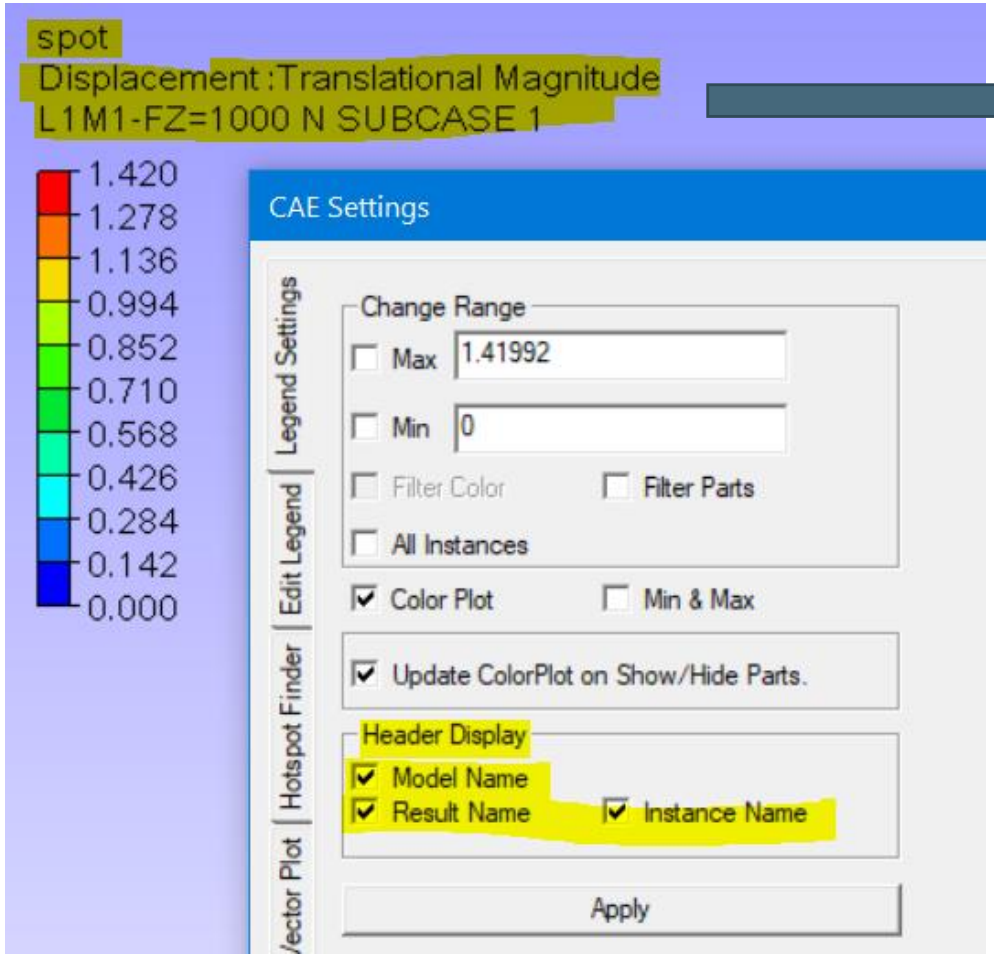
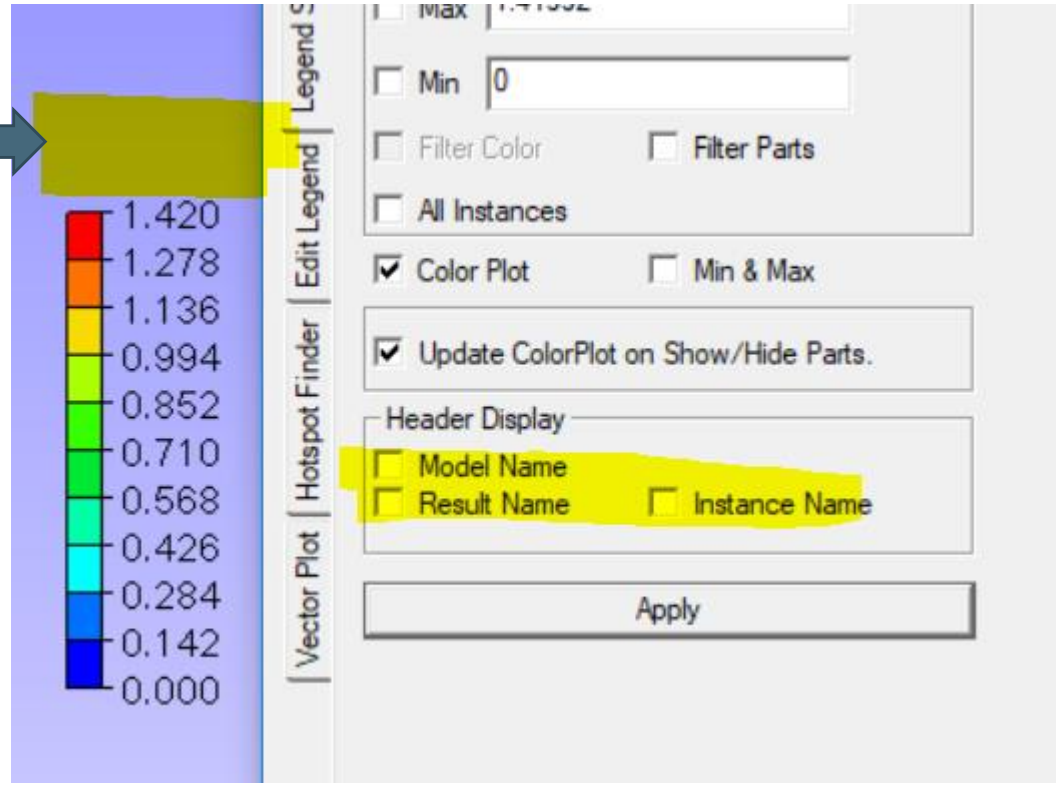
Legend Header Display Control

- Option switch on/off all legend header labels
  - Model name, Result Name and Instance Name





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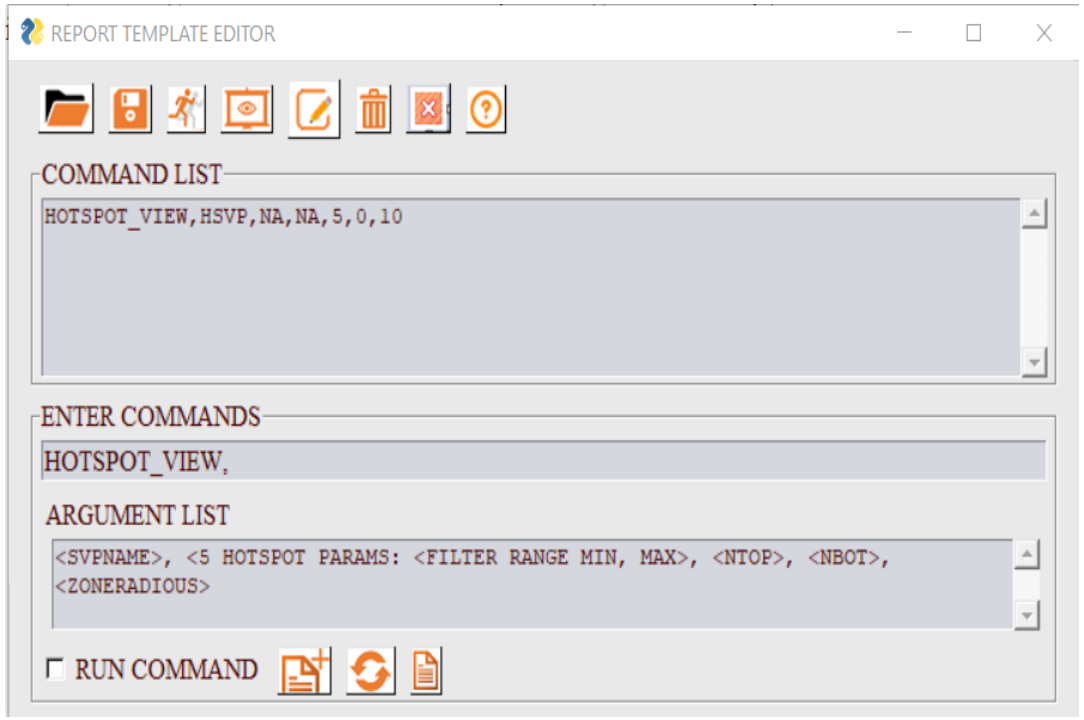
PyTools: Report Template Editor

To simplify report automation task, a list of generic commands are developed using python.
A list of such commands can be defined in a text file as a template ('Report Template') to create or modify a VCollab Live report (CAX/HTML) automatically. Select "*PyTools=> Report Template Edit* " menu option to lunch the following GUI. The GUI can be used to load , Edit and run a set of commands. It is also possible to run a set of commands to modify all viewpoints. Help option in this dialog will give details for all the commands. Python Source code for the commands as also available in *Pytools/CMD_Editor* forder.



Report Template Editor GUI

```
#------------ Commands to create Generic CAE report
VIEWPATH,CAE Report                                  #=> Set Viewpath for the report
IMAGE_VP,N,VC_ColorBG.png                            #=> Set image background for all viewpoints
SET_Font,NOTE,12,Arial Bold,92,92,92,255,255,240,0   #=> Set font for all 2D text labels
DEL_ENTITY,XY,LABEL,SYMBOL,PROBE                     #=>Delete all existing label and xyplot displays (if any)
#=>---------- Set model display settings for next viewpoint
SET_DISPLAY,COLOR=N,LEGEND=N,DEFORM=Y,UDMESH=N,DMODE=1,AXIS=Y,SECTION=N
SHOW_LABEL,ID=Y,ROW=Y,COL=N,PART=N,RANK=N,HEADER=N,ABR=N,PROBE=1 #=> Set ProbeLable display options
PARTS_SHOW,ALL                                       #=> Display all parts
CAMERA_VIEW,-1.0,-1.0,-1.0,0.0,0.0,1.0               #=> (direction dx,dy,dz, up-vector ux,uy,uz)
FIT_VIEW,-0.1 => Fit model and zoom out 10%
ADD_VP, Geometry View, Geometry View, 0.5, 0.1       #=> Create simple model mesh View  with out color plot
#----------------------------------------------
SET_DISPLAY,COLOR=Y,LEGEND=Y,DEFORM=Y,DMODE=0        #=> Set model display settings for next viewpoint
DEL_ENTITY,XY,LABEL,SYMBOL,PROBE                     #=>Delete all existing label and xyplot displays (if any)
MODAL_VPS,5,Y                  #=> If Modal data create Modal views else create hotspot views for each result
#----------------------------------------------
CUR_FOLDER,CAX                 #=> Set current folder to CAX file folder
#SAVE, CAX                     #=> Save CAX file
#SAVE,HTML                     #> Save html file
EXIT                           #=> Quit command processing
#-------------------------------------------------
```

Sample Report Template

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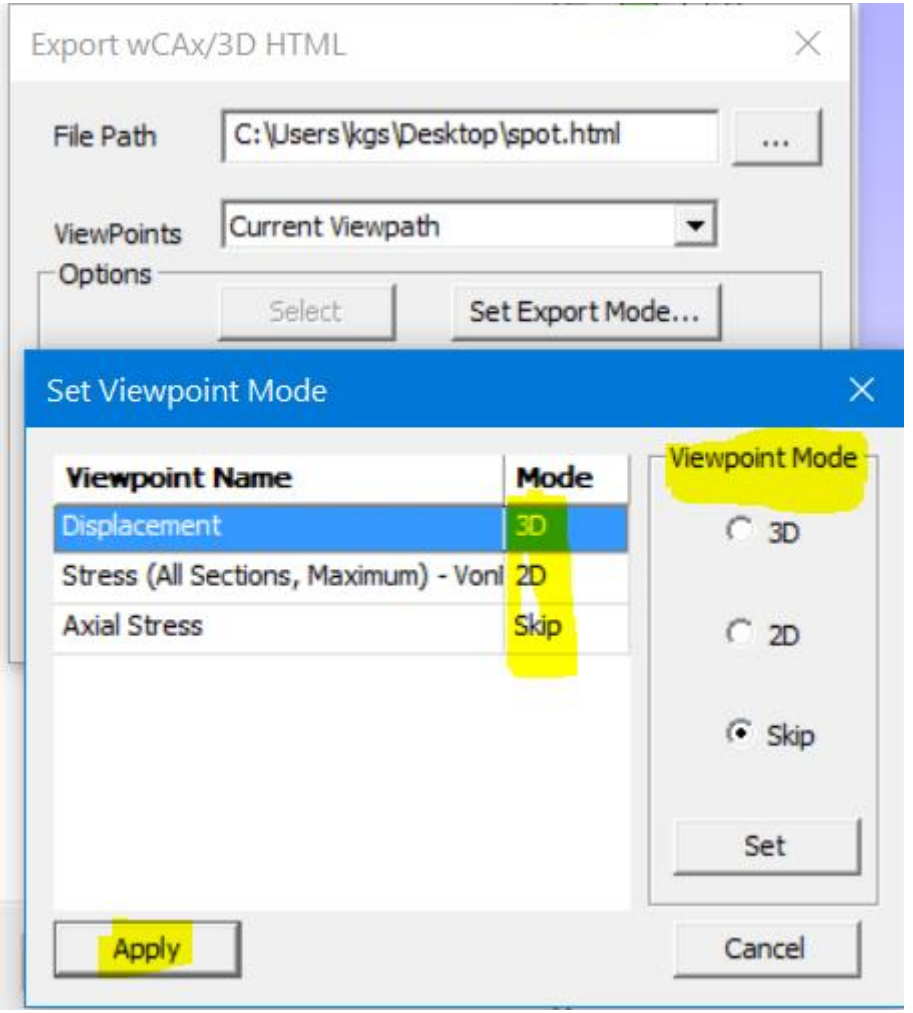
HTML/WCAX Export with Selected Viewpoints

- User can select viewpoint export mode
  - 3D => Viewpoint will have the 3D content (default)
  - 2D => Image of the viewpoint will be present in HTML
  - Skip => Viewpoint will not be exported

- This will enable saving of required viewpoints
  - File size can be controlled
    - Save only required 3D viewpoints



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19.X Enhancements

VCollabPro

- Support for enabling multiple custom Python Menus
- "frames" option in explode dialog to control animation speed
- Create Result: Option to create current derived result as new result (including complex results)
- Remote desktop graphics rendering mode is modified (enable GPU support if supported by windows)
- HTML Export: Selected Element option is supported for current model when merged models are present
- Probing Multiple nodes supported from Label List dialog
- Enhanced Python API support

PyTools

- Added 'View2Background' to PY_Tools Menu: To set current display as image background.

VMoveCAE

- Support reading Creo simulation studies by passing the .mdb file path
- Support to extract File dependencies for Ensight and Creo simulate file
- Ansys named selections supported => Need to select "Element Set" Part grouping
- Enabled instance names for single results files (.fer and csv)
- Fixed the STL binary file handling issue
- Bug Fixes

VCollabWeb

- Added support for more viewpoint attributes such as point size , show/hide model name in legend.
- Bug Fixes

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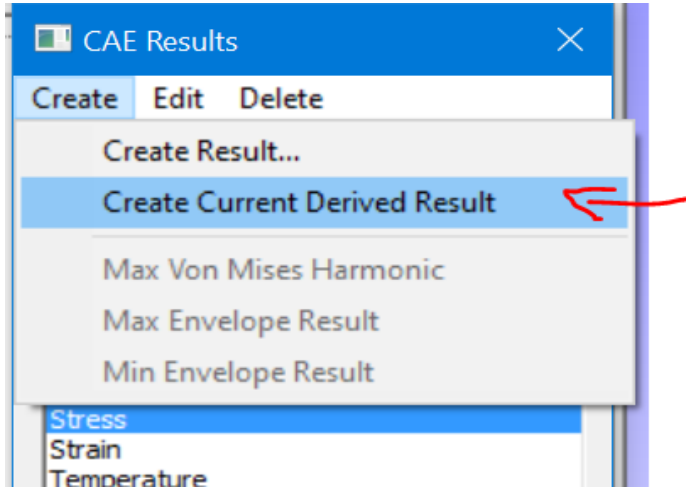
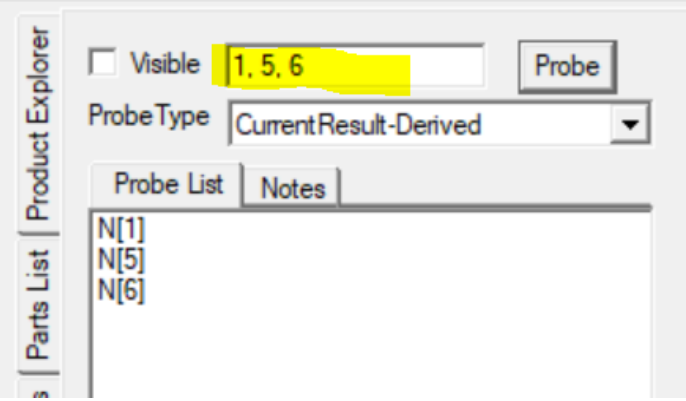
VCollab Pro New Functions in 19.x

- Create Result: Option to create current derived result as new result (including complex results)
  - Create VonMises/ MaxPrincipal Stress results from stress tensor



- Probing Multiple nodes supported from Label List dialog



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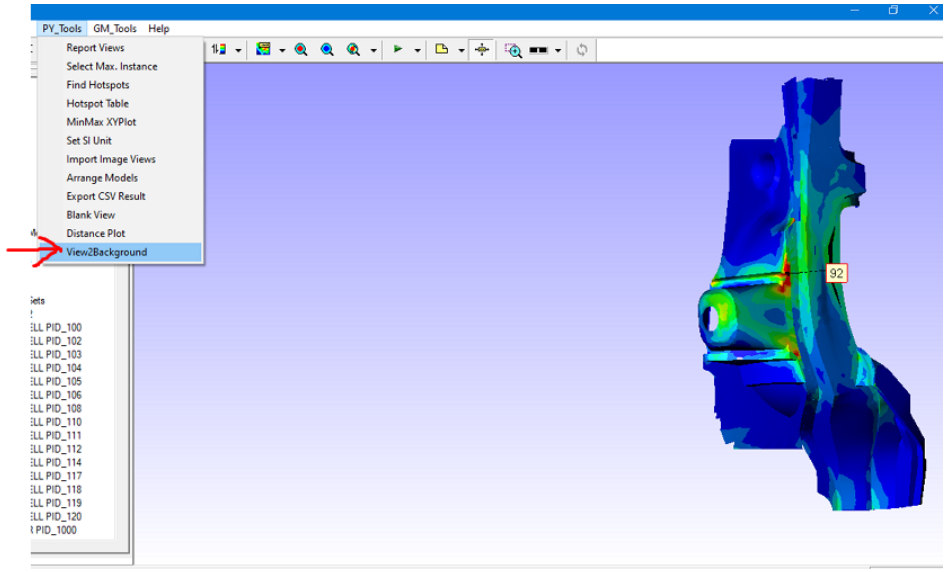
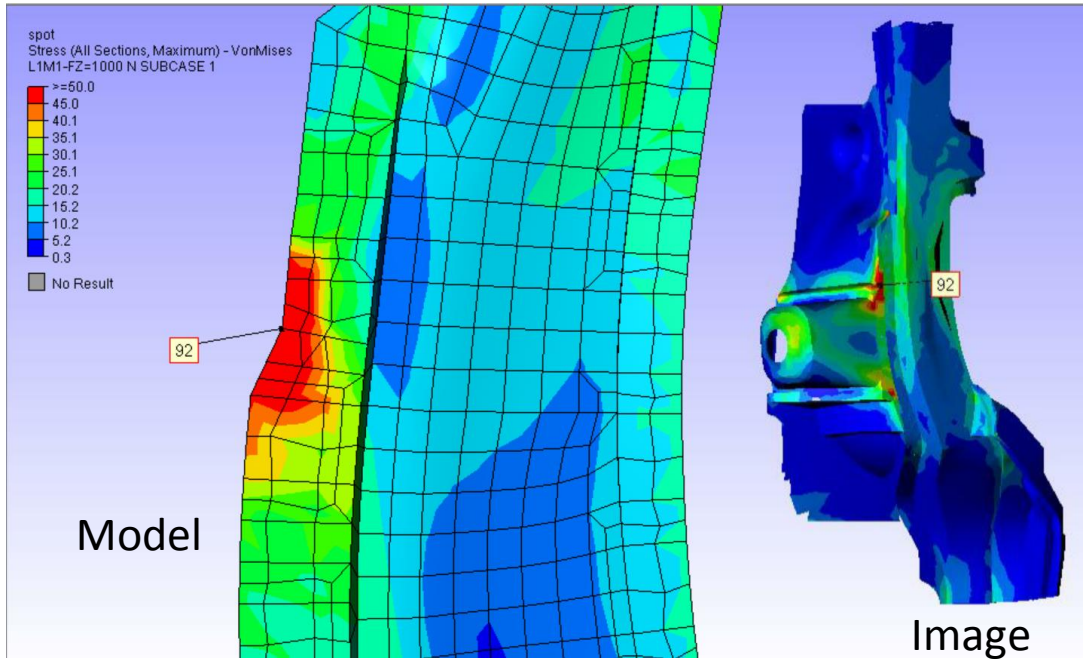
PY-Tools: View2Background

- PY-Tools function 'View2Background' is added to set current display as background image
- This can be used to show full model (in one side) as image as context and a part in zoomed view.
- This option can be used to convert few viewpoints as image and reduce the html file size.





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