



# Overview of new Features in winLIFE 2024 Version 4.7.0.7 (current Version) to 4.7.0.3

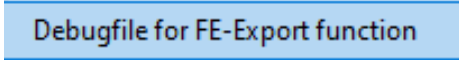
- **Troubleshooting**

- In the FKM module, it could happen that changes to the weld seam parameters were not adopted.
- Under Windows 11 it could happen that the entries FKM(2020) and FKM(2012) were missing in the SN curve generator.
- Calculation parameter classification: empty hysteresis field could cause problems.
- Writing of very many load cases possible (with modal superposition).
- Stress gradient for uniaxial projects can be optionally used again / not used.
- Problems with multiple copies with project file fixed.
- Critical error in the FKM method welded and not welded, in the load ratio alternating/pulsating/R input, when calculating with several load cases, has been fixed. (The load cases were added several times.)



# Overview of new Features in winLIFE 2024 (4.7.0.3)

- **Viewer4winLIFE**

- **More robust** and **faster** thanks by outsourcing to a separate task. All controls and conversions are performed internally in the separate task
- Revision of the new viewer interface, resulting in a simpler and standardised menu navigation in the user-defined task
- Extensive debugging (\*.bug files): during stress conversion 
- Standardised definition of shell orientation
- Improved attribute definition
- Faster FE import dialogue
- Faster graphic operations by using the 'Ctrl' key
- nodes, that have solid - and plate stresses at the same time in the LST-file receive solid stresses
- optionally display the second and third largest results from the exp file



# Overview of new Features in winLIFE 2024 (4.7.0.3)

- **User Interface**

- Processing of brackets in formulas possible (InfixZuPostfix)
- More tolerant processing of signs in formulae
- Assignment matrix. Values can now only be entered in ascending order to avoid errors
- Fixed differences in the output of the damage total and the report
- Fixed error with project swapping
- Fixed possible access to an older winLIFE config file after an update
- FKM Static verification, possibly incorrect calculation of understress (too large), with A/M input.
- Changed loading of examples, searches in a different directory and checks for existence of directories

- **FKM**

- Fixed bug in Kdm calculation for structural steel



# Overview of new Features in winLIFE 2024 (4.7.0.3)

- **Solver**

- Problem with cancellation of parallelised container project fixed
- Calculation of Wöhler (SN) curve transformation according to GL changed according to guideline for certification of wind turbines edition 2010.pdf page 233 -> Consideration of Fork instead of safety factor
- Consideration of the surface roughness in the local concept, can be activated via the programme settings
- Fixed problem with dynamic modulation when the torque was exactly at the lower limit of the torque matrix

- **Container Project**

- When cleaning up the container project, the temporary files (daff/formulas...) are also deleted to avoid errors.
- The dialogue with the results of the partial load calculation now closes automatically only as an option.



# Overview of new Features in winLIFE 2024 (4.7.0.3)

- **FE-Interface**

- Update to ANSYS R2023
- Abaqus interface: Time steps for non-linear methods in the Abaqus \*.fil file are recognised as load cases (as with RecurDyn)
- Adaptation of winLIFE - Femap macro to version Femap 2306

- **Other**

- Examples revised



# Comparison Viewer 2024

## Menu bar

### Viewer 2024



Fitting of the model

New:Orientation angle

Show, hide element edges

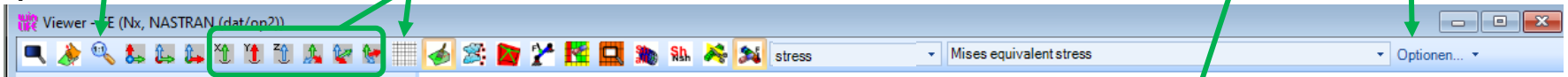
right mouse button

Save view

New:Call Nufuss independently of winLIFE

Options

### previous Viewer 2023



right mouse button

Copy graphic to clipboard Ctrl+C  
Save graphic to png file

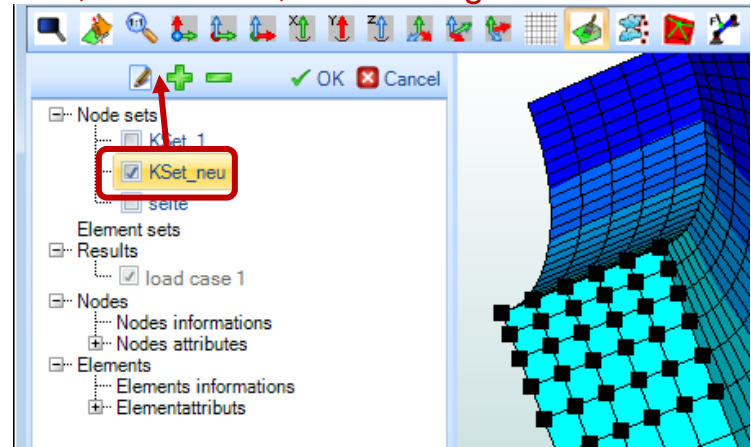


# Comparison Viewer 2024

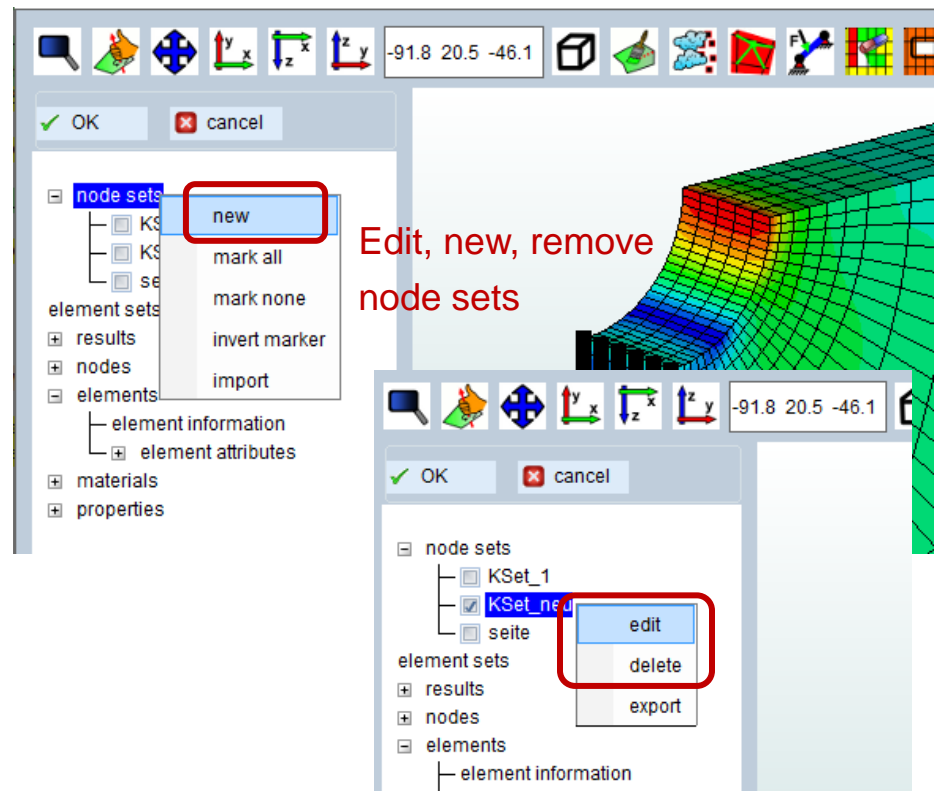
## Create and Edit Sets, Attributes

Viewer 2023

Edit, create new, remove e.g. node sets



Viewer 2024







# Comparison Viewer 2024

## Commands Context Menu

Viewer 2023

- Prezoom
- Show results
- Copy graphic to clipboard Ctrl+C
- Save graphic to png file
- Log. View
- Invert palette
- Result min/max
- Result global min/max
- Reset min/max result
- Number of resultintervals
- Show values**
  - Nodes
  - Elements
- Show extreme values
- Show palette

Viewer 2024

show node values

show element values

result parameters

centre view

**views**

- rotate around x-axis
- rotate around y-axis
- rotate around z-axis
- isometric view
- dimetric view
- trimetric view

different views

Weld seam triad for nodes

44755, v: 2775.0

result parameters

minimum: 6.5401

maximum: 309.718

reset Min/Max

number of result intervals: 15

display extreme values

logarithmic display

switch palette on/off

inverse palette

el. to node stresses

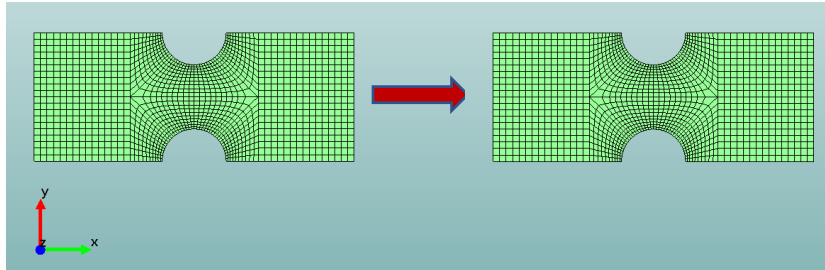
displacement increase: 1.0



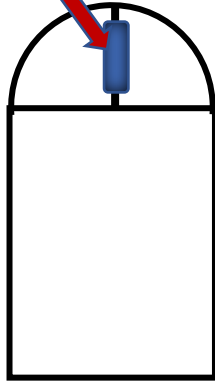


# Control the Movement of the Model in the Viewer

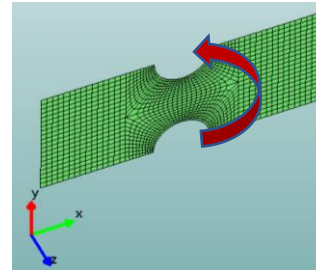
move



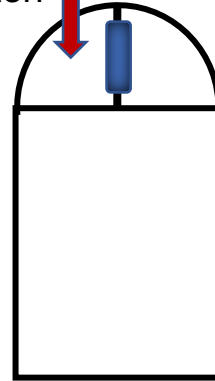
Press mouse wheel



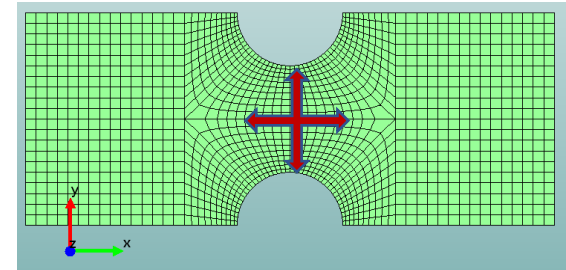
rotate



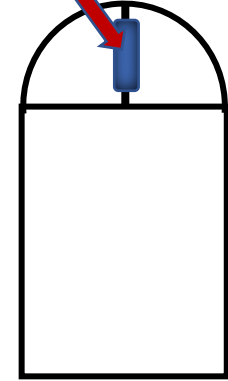
left mouse button



zoom



Turn mouse wheel



The button **CTRL** causes the model to move faster..

Within a Viewer menu, the **CTRL** key must also be pressed to move the model.

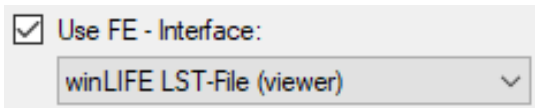
Rotation of the model around axes by pressing x (y,z) and turning the mouse wheel



# Stress Orientation for Shell Elements

(from winLIFE 2024)

The **Orientation of the Shell Element Stresses** is specified or the setting:

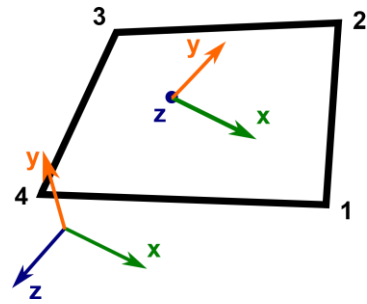


The following options are to be specified in the LST file:

- Shell\_stress\_orientation **ANSYS**
- Shell\_stress\_orientation **NASTRAN**
- Shell\_stress\_orientation **NUFUSS**

**More information in**

the winLIFE help



Internally, the viewer calculates with the NUFUSS (= Abaqus) orientation of the element coordinate system