

VALIMAT™ & IMPETUS™ New Features 05.10.2018

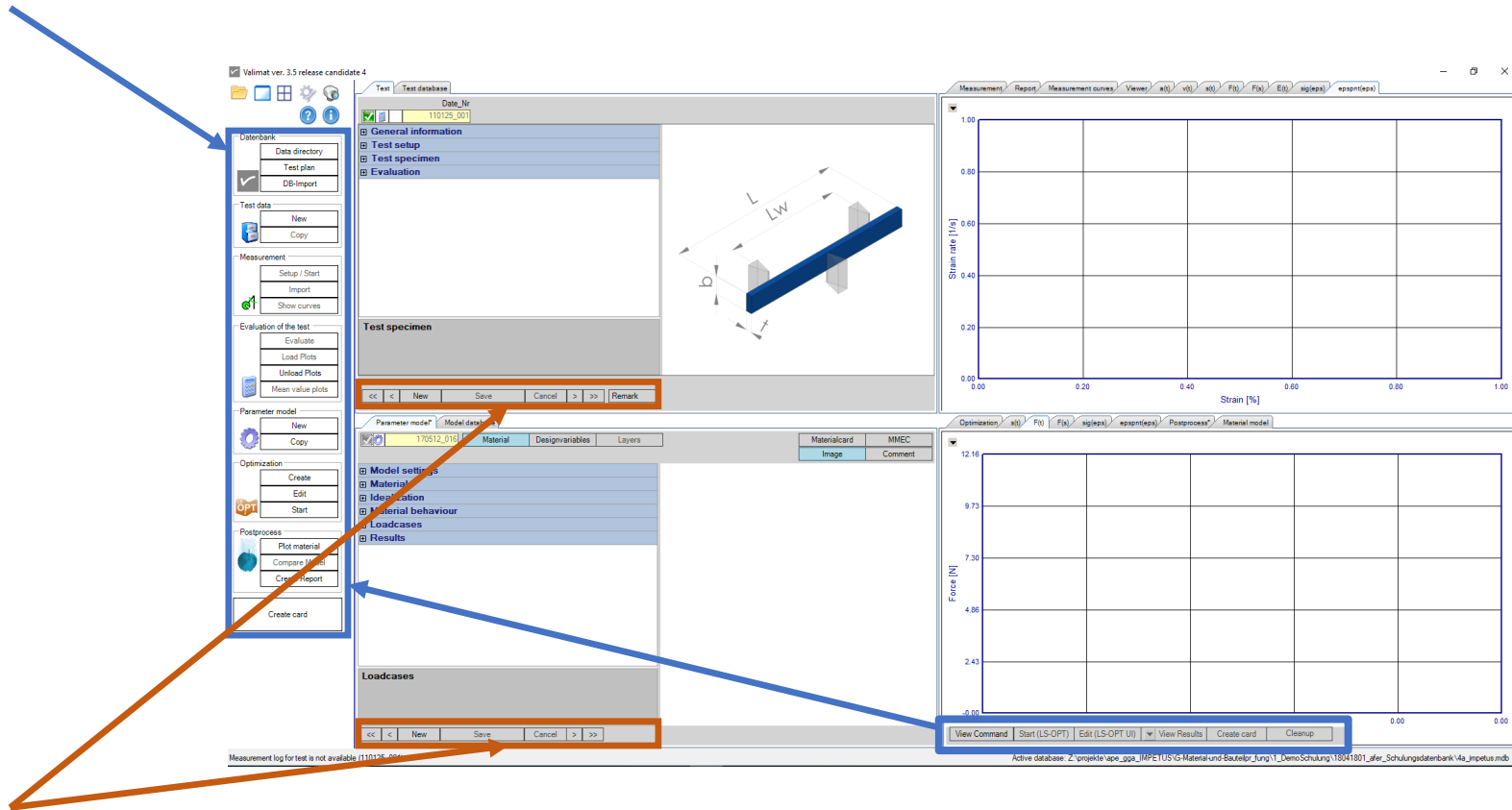


VALIMAT™ Version 3.5

- **Rebranding of 4a Impetus Software to VALIMAT™**
- **New features in VALIMAT™**
- Licensing
 - Update of the license server to support 64bit Version of FIBERMAP
- GUI
- Graph
- Settings
- Data import
- Simulation models
- Material cards
- Dynamic tensile test

VALIMAT™ – New Features – GUI

Update of navigation bar



„Edit“ button removed

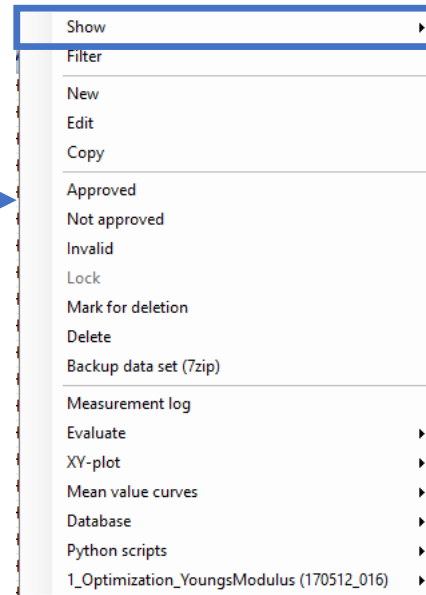
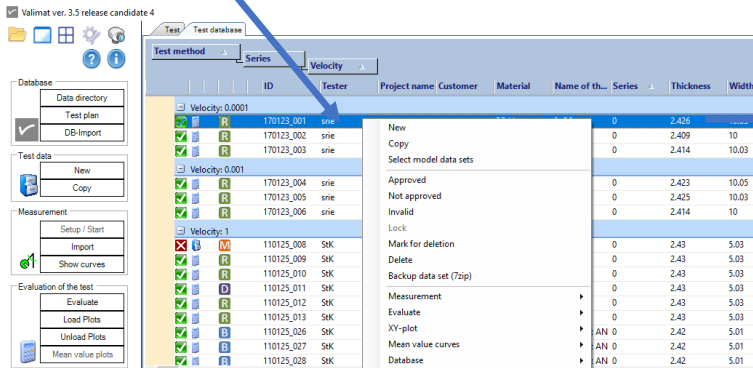
Warning message if you have edited a dataset without saving and also dataset selection is locked

VALIMAT™ – New Features – GUI

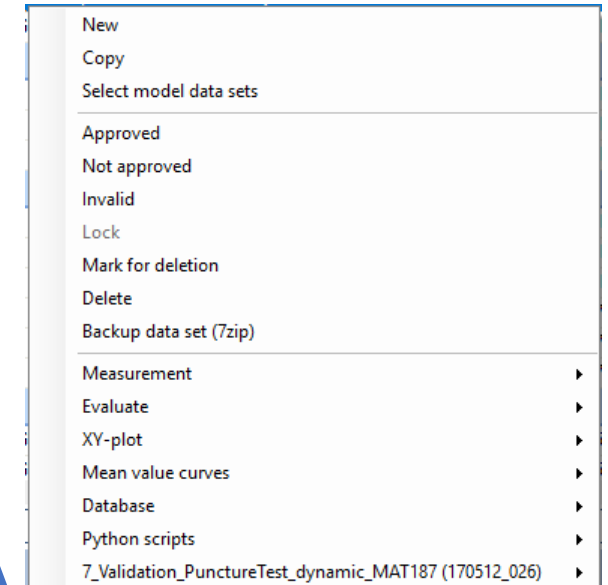
4a Impetus Software
version 3.4

VALIMAT™ 3.5

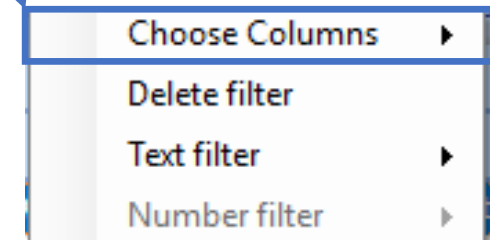
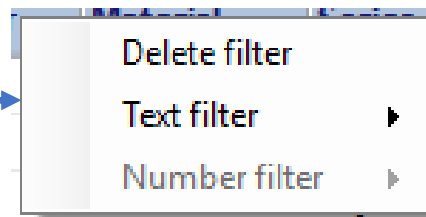
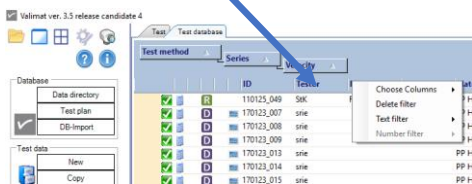
Right click



moved

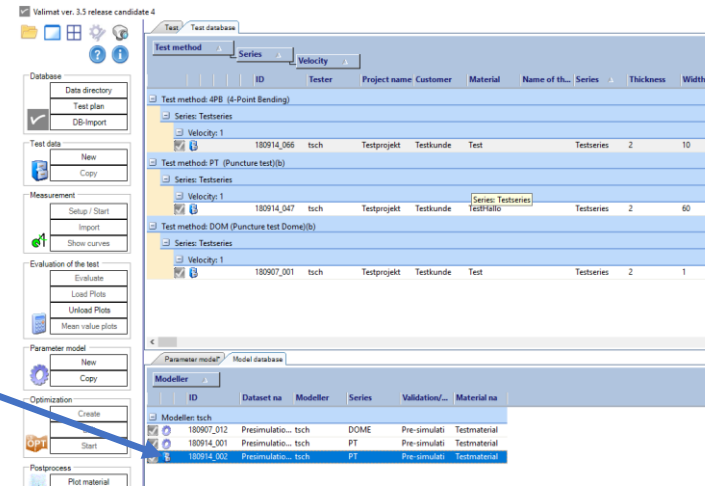
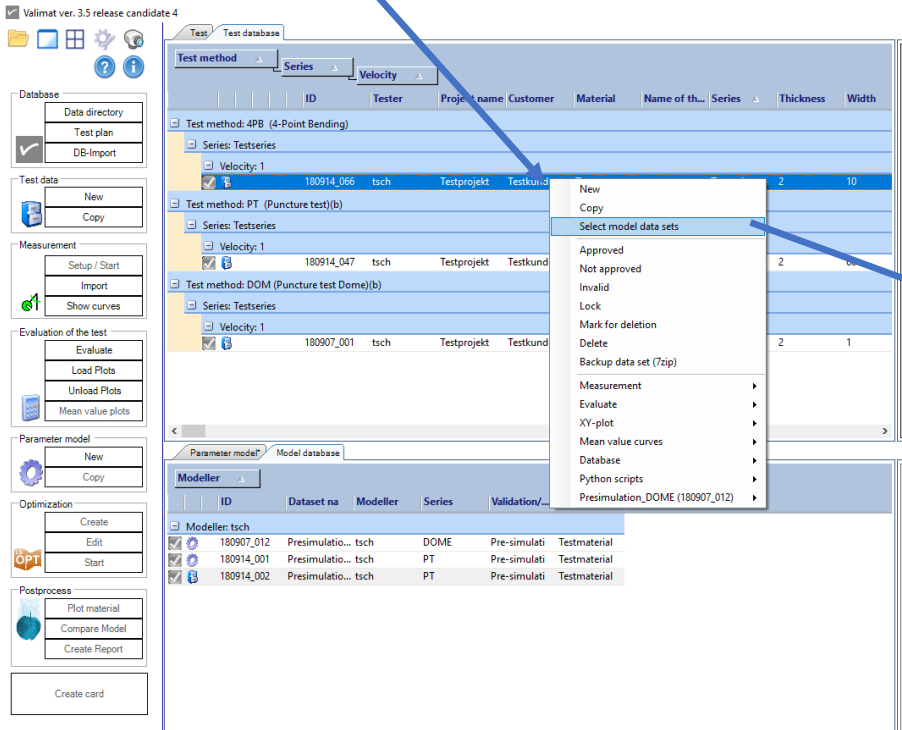


Right click



VALIMAT™ – New Features – GUI

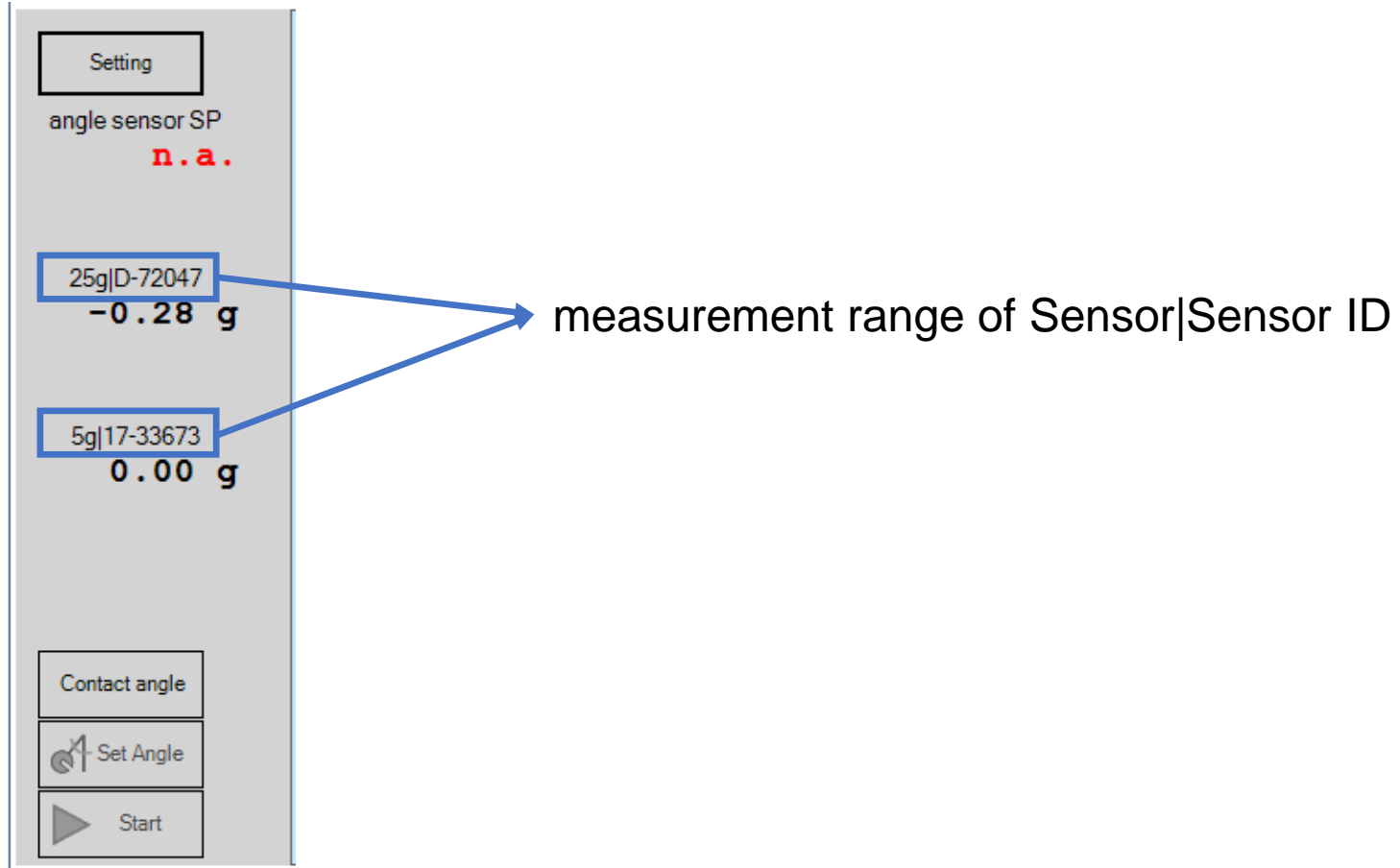
Right click



Also implemented in the other direction: model dataset → test dataset

VALIMAT™ – New Features – GUI

- Display sensor name in measurement tab



VALIMAT™ – New Features – GUI

- Review setup settings in „About“ window

Valimat ver. 3.5

Database

- Data directory
- Test plan
- DB-Import

Test data

- New
- Copy

Measurement

- Setup / Start
- Import
- Show curves

Evaluation of the test

- Evaluate
- Load Plots
- Unload Plots
- Mean value plots

Parameter model

- New
- Copy

Optimization

- Create

About Valimat

Valimat ver. 3.5.0.1099
Githash: 2e7b883887addb79fc3f4144266127438f8c4214
(C) by [4a engineering GmbH](#)

Support email: valimat.support@4a.at
Support phone: +43 3842 45 106

The following components are used:

- [Accord.NET](#) (c) Accord.NET Authors
- [MTParser](#) (c) by Mathieu Jacques
- [NTGraph](#) (c) by Nikolai Teofilov
- [SevenZipSharp](#)
- [SmartFormat.NET](#) (c) Scott Rippey
- [UDE.CSharp](#)

The following I3c revisions are used:

input.I3c:	1099
mass.I3c:	1099
material.I3c:	1099
settings.I3c:	1099
testplan.I3c:	1099

Usersettings

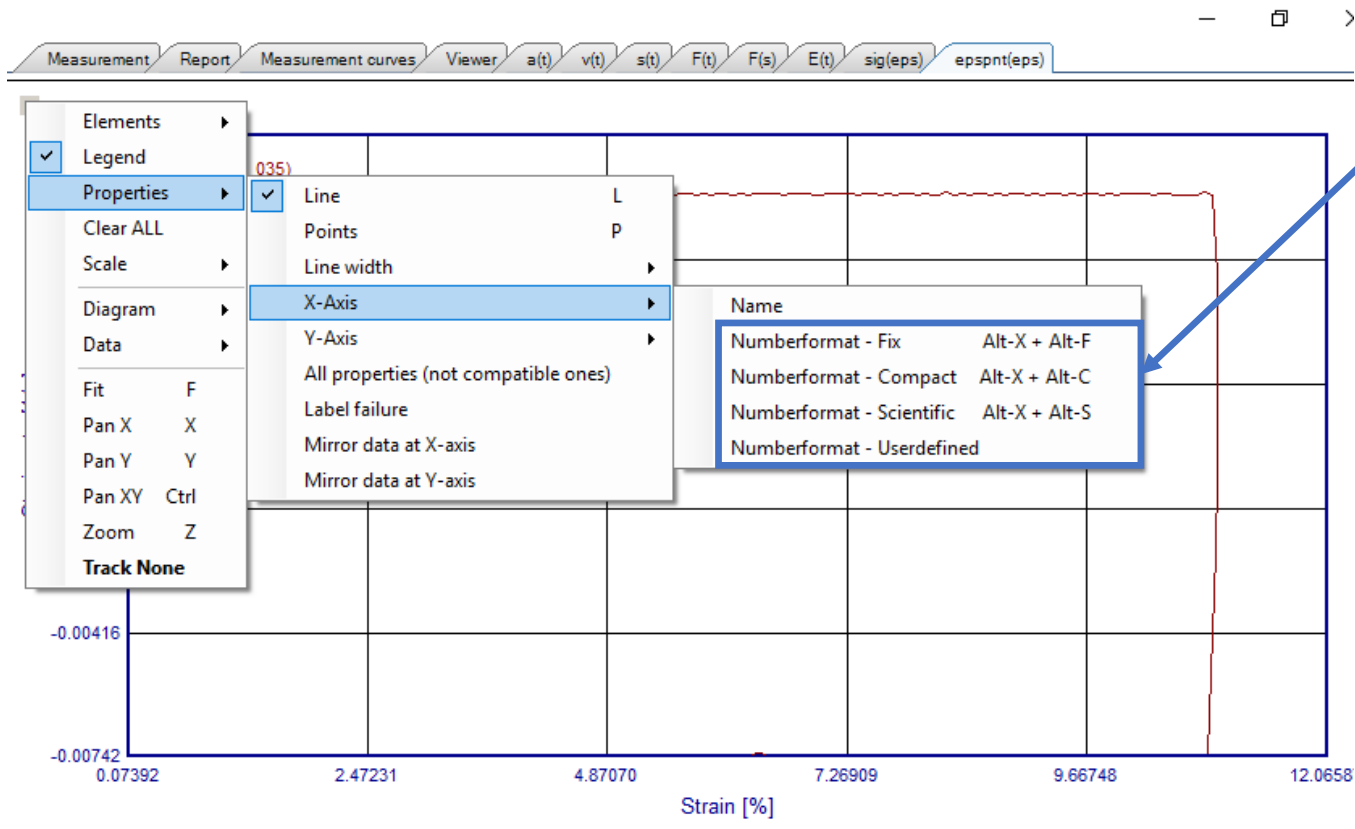
Licenseinfo

Server: [REDACTED]
Version: 3
Available Features: impetus_movableTabs, impetus_Isdyna, impetus_pamcrash, impetus_abaqus, impetus_radioss, impetus_autofit, impetus_micromec, micromec
Current Features in use: impetus_modeller
Number of Tokens in use: 16

Startupsettings

```
index=..\global_settings\index.mdb
input.I3c=..\settings\input.I3c
lang=en-US
licloc=27010@10.0.0.226
lictype=fs
main_database=..\settings\4a_impetus.mdb
mass.I3c=..\settings\mass.I3c
```

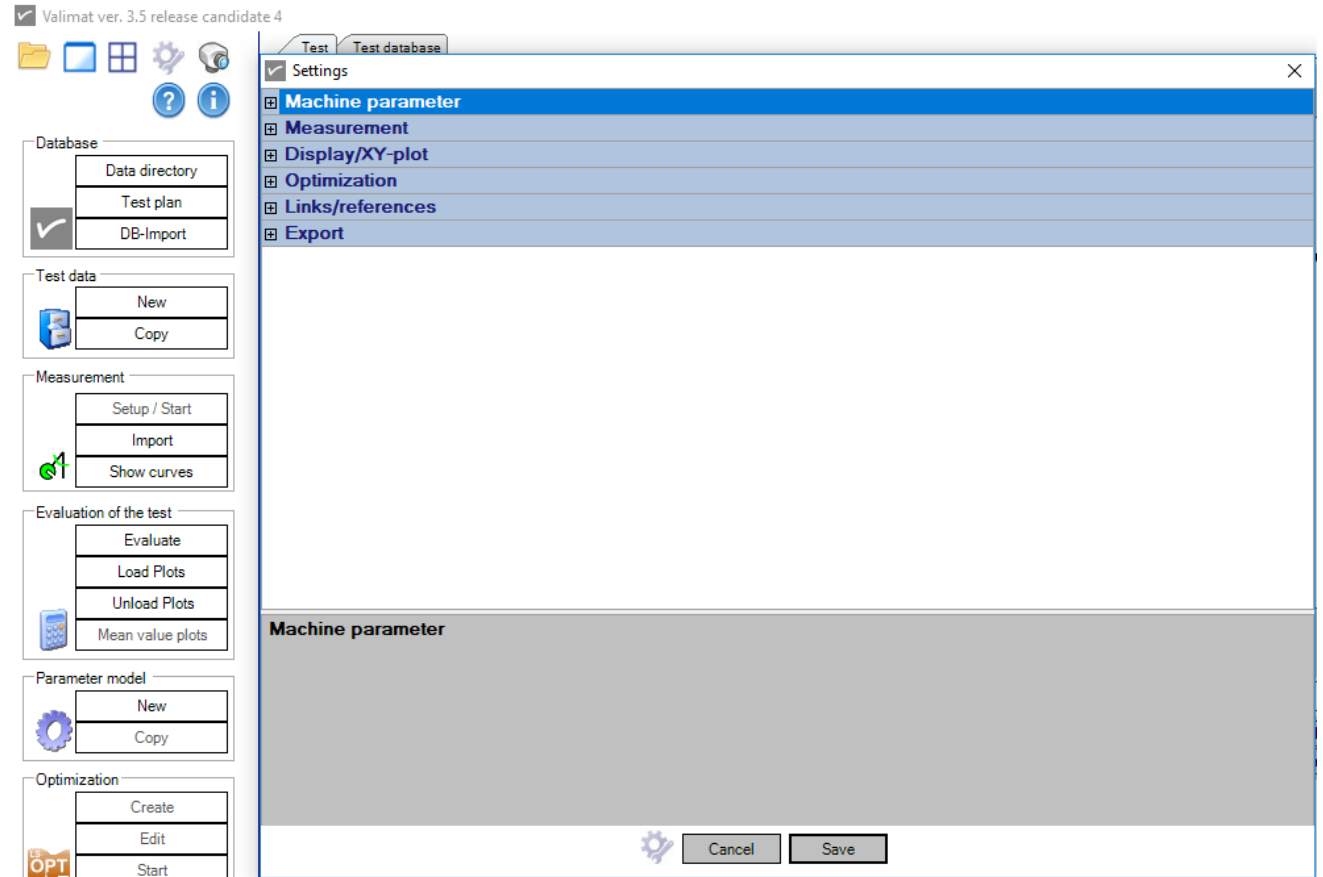
VALIMAT™ – New Features – Graph



Specify number format for x and y axis

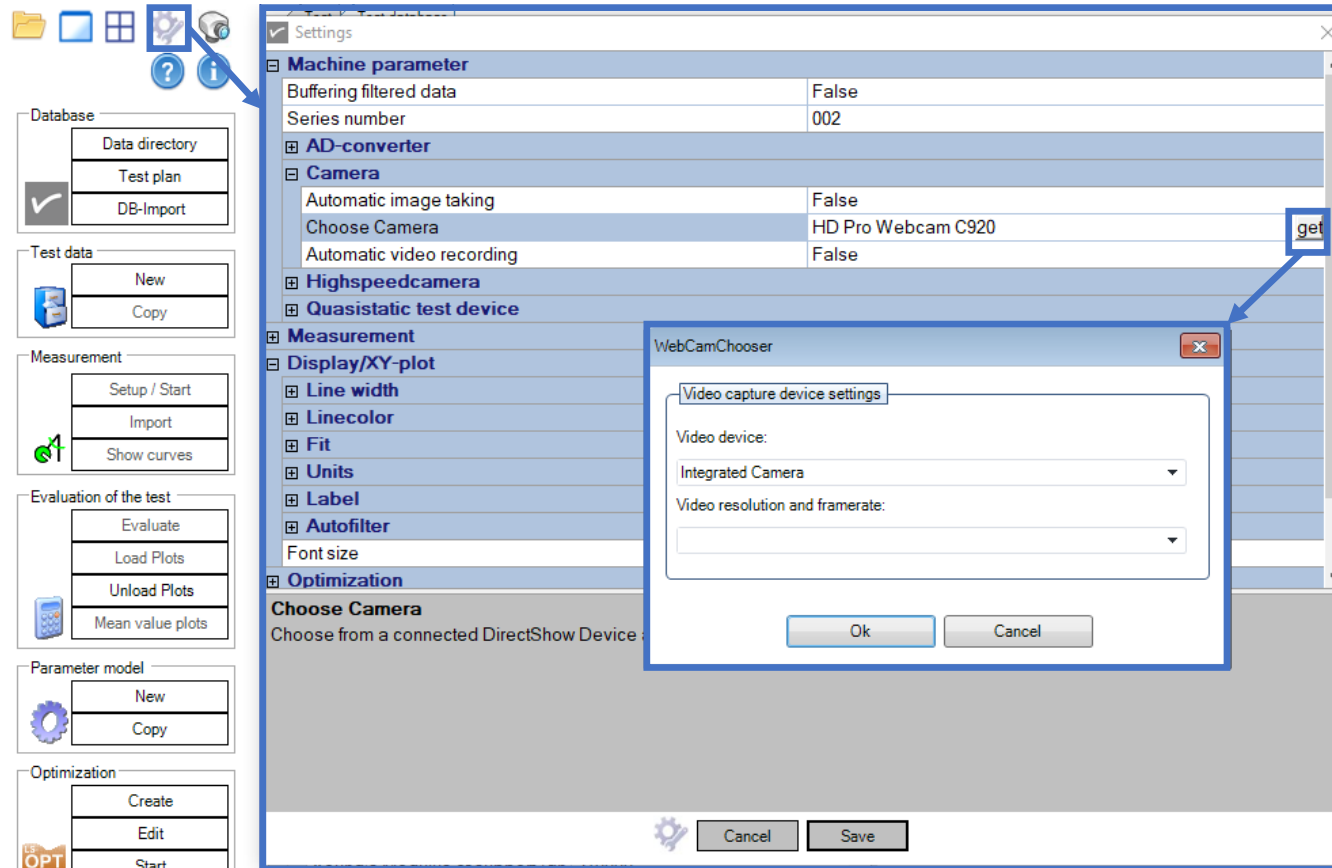
VALIMAT™ – New Features – Settings

- Review of settings menu
 - Cleaning up of menu
 - Added a few helpful settings



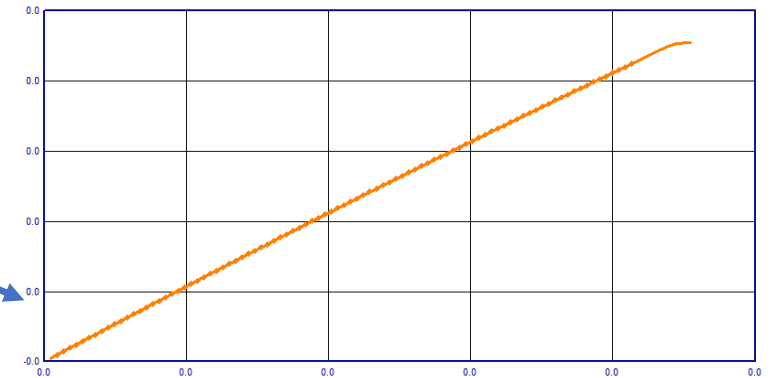
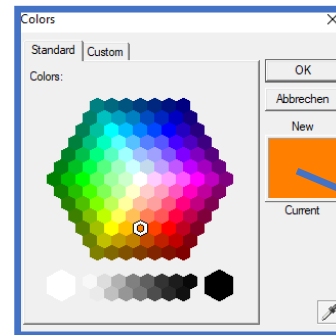
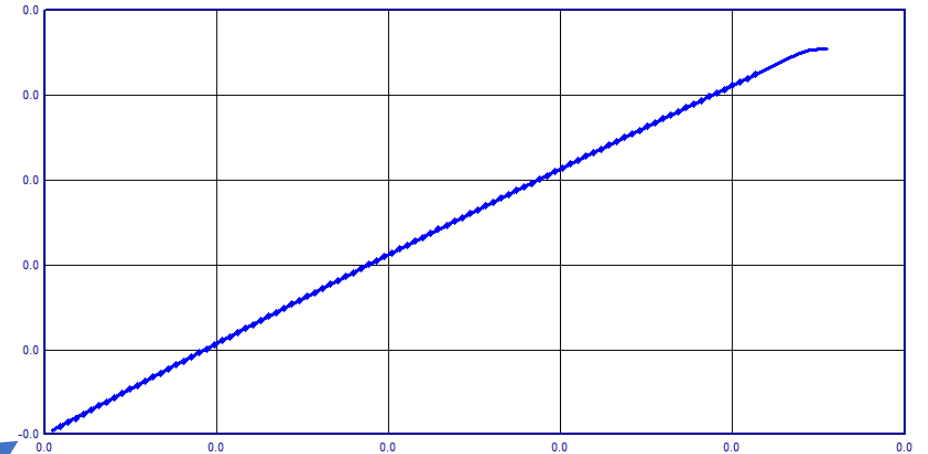
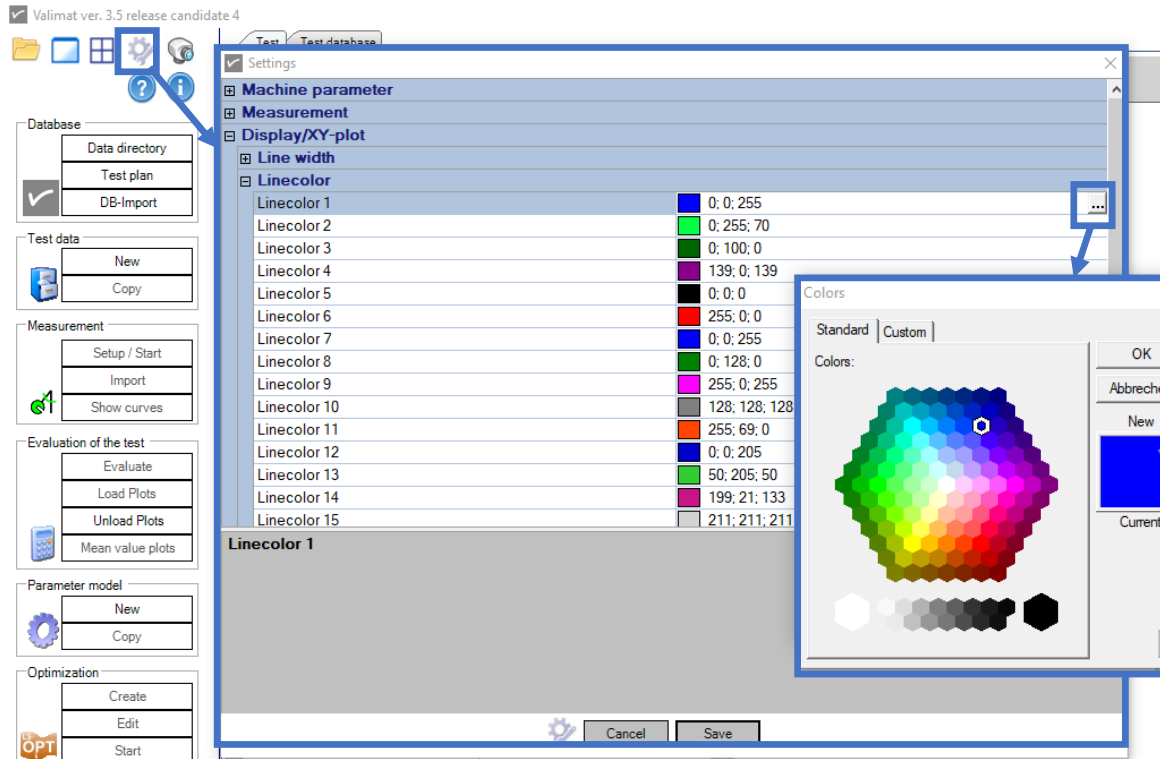
VALIMAT™ – New Features – Settings

- Choosing of Camera



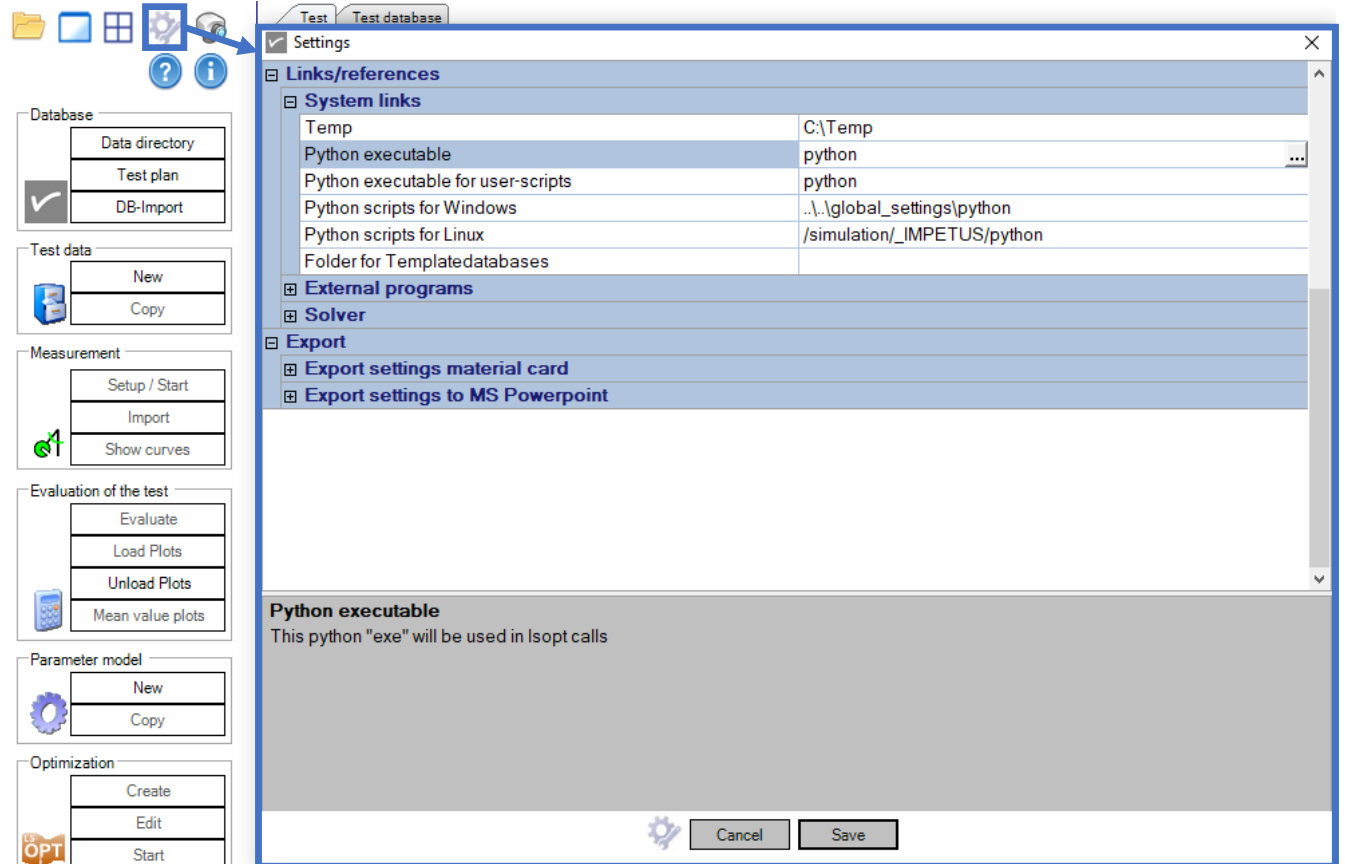
VALIMAT™ – New Features – Settings

■ Choosing the line color of curves



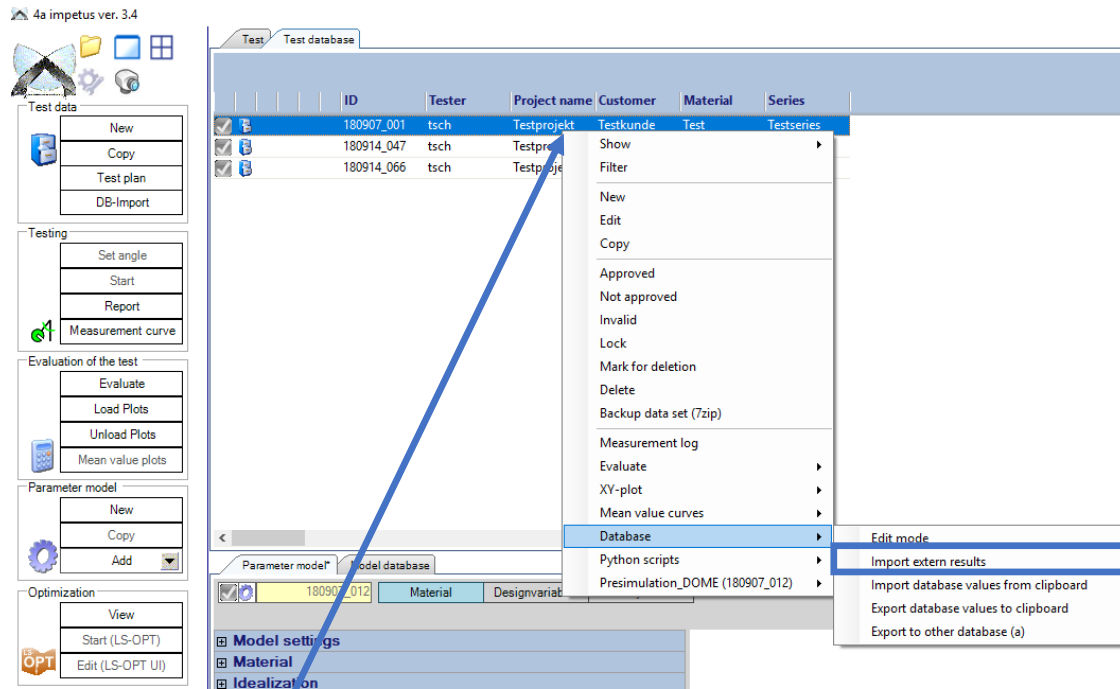
VALIMAT™ – New Features – Settings

- Paths for python
 - Path for LS-OPT calls
 - Path for user defined scripts



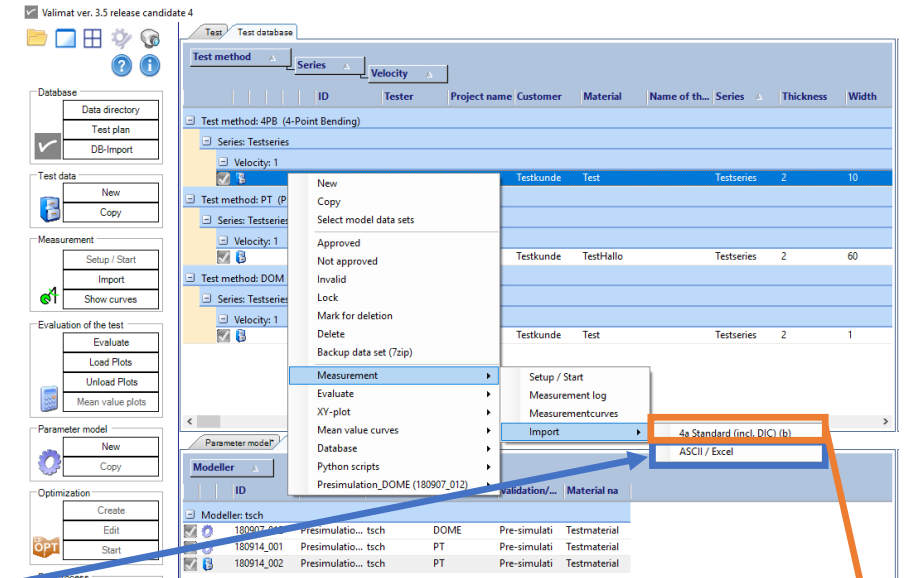
VALIMAT™ – New Features – Data Import

4a Impetus Software
version 3.4



Right click

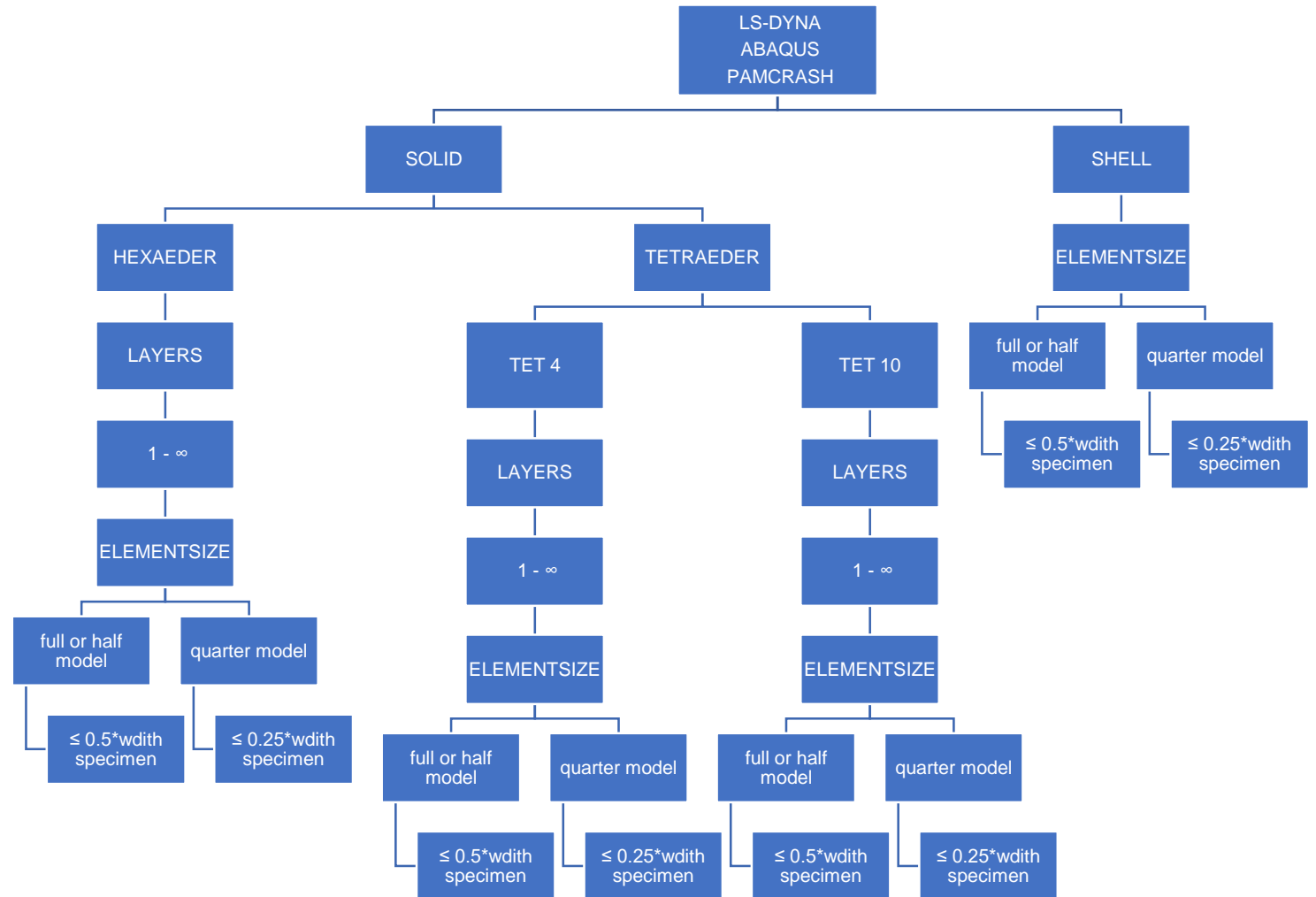
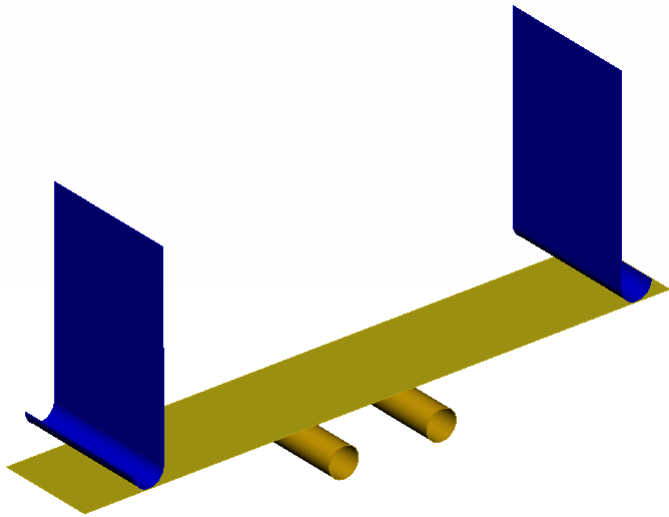
VALIMAT™ 3.5



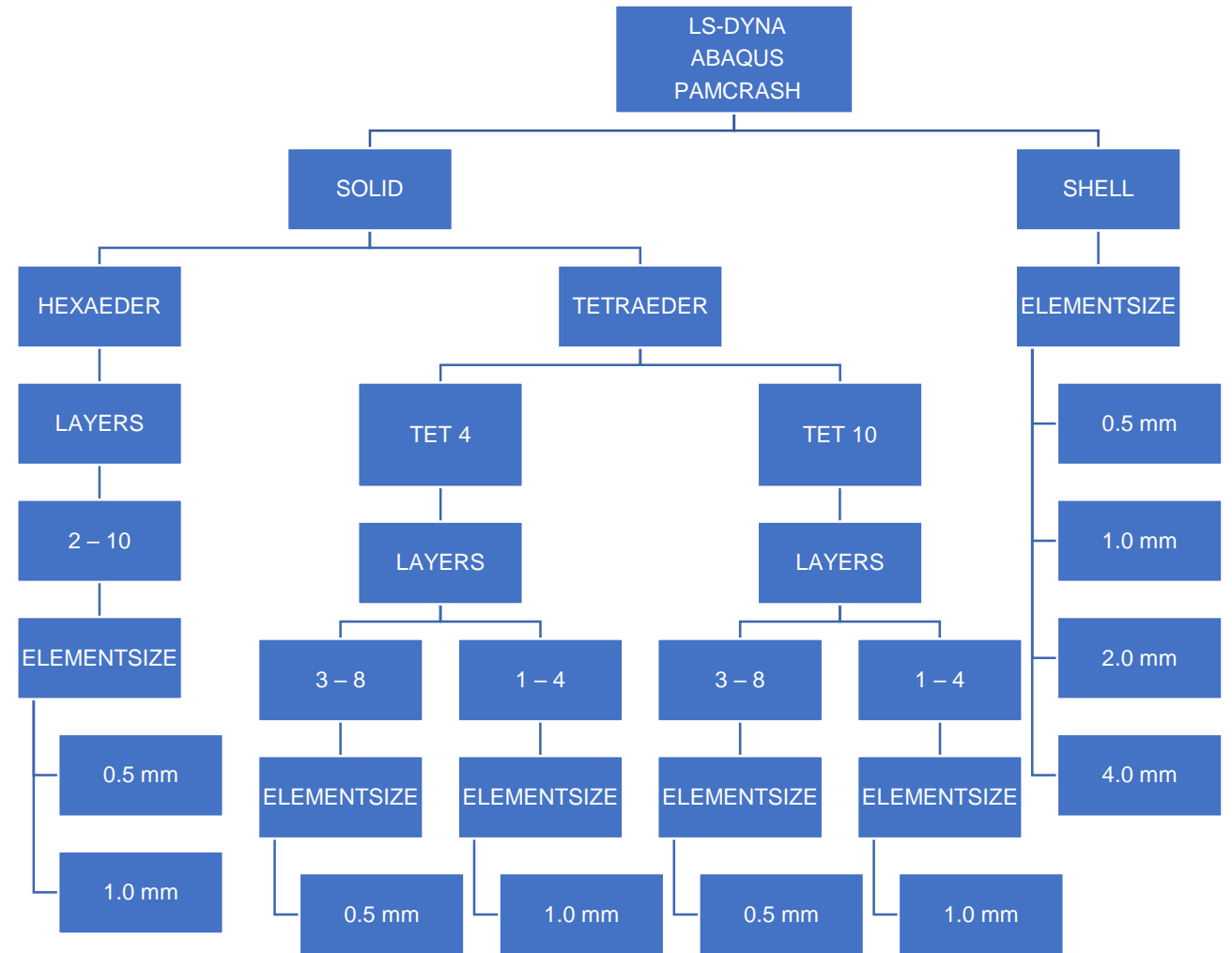
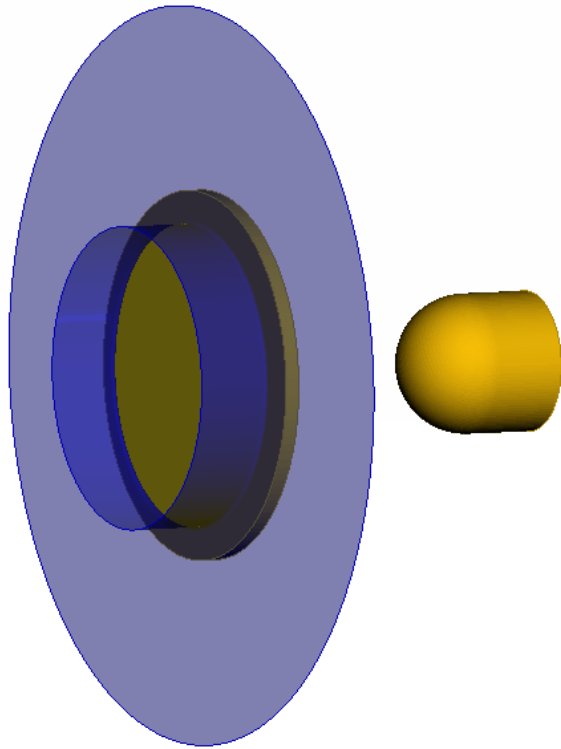
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New feature for the import of DIC-Data (Beta)

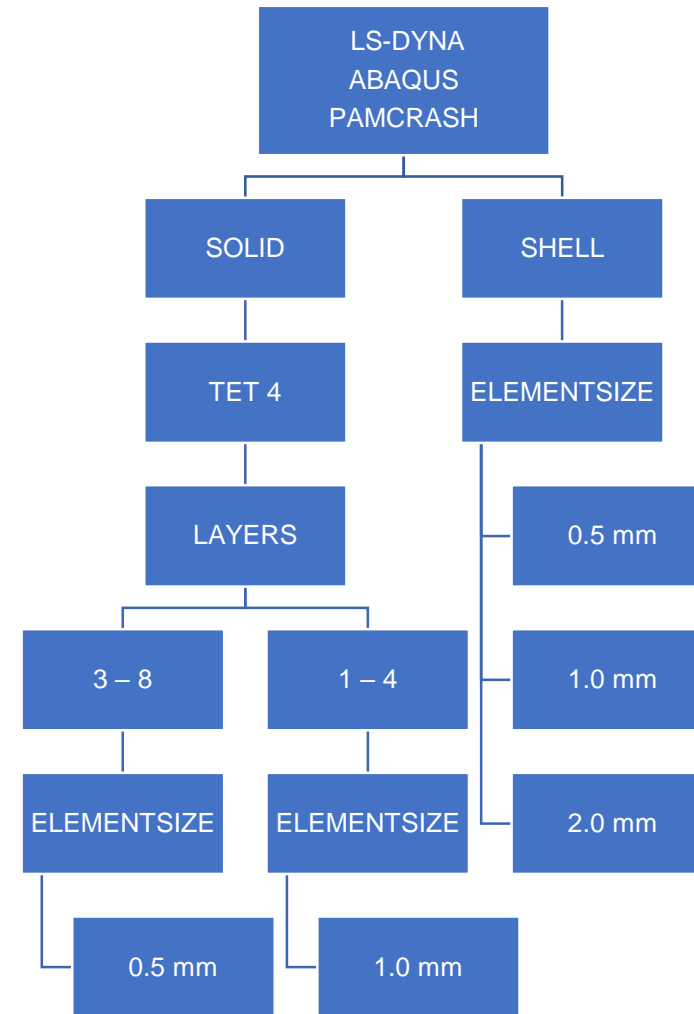
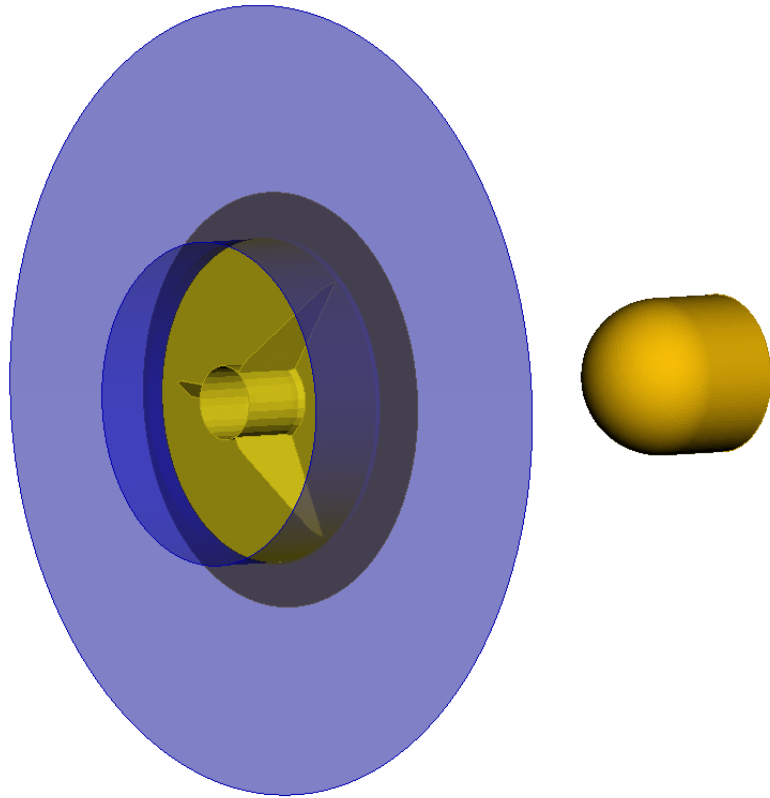
VALIMAT™ – New Available FE-Models – 4-Point-Bending



VALIMAT™ – New Available FE-Models – Puncture

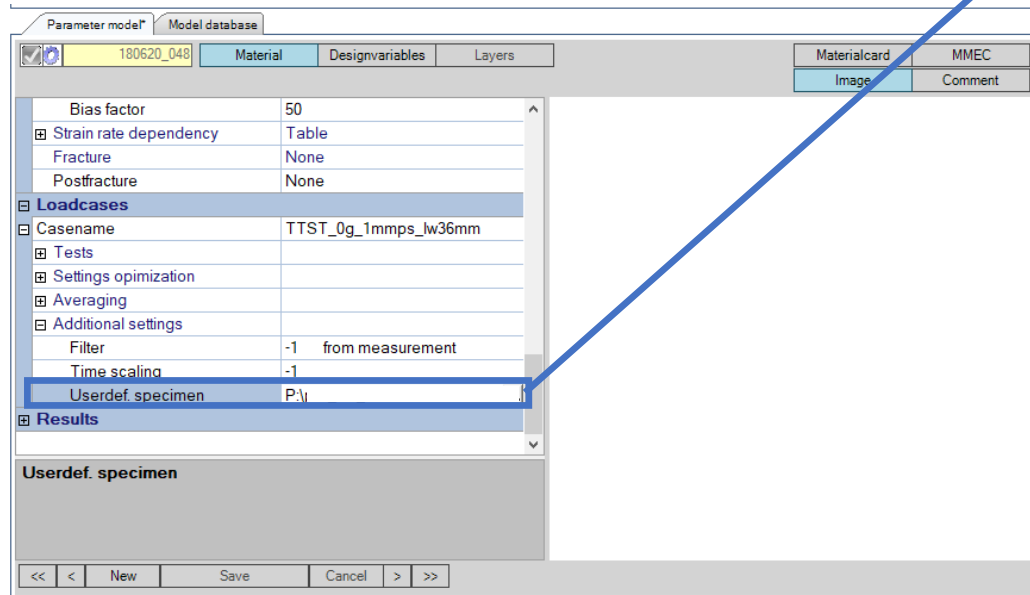


VALIMAT™ – New Available FE-Models – DOME



VALIMAT™ – New Available FE-Models – User defined

- Nakajima Specimen
- Tensile Specimens which are not yet included in VALIMAT™
-
- Can be defined for each case separately
- File contains only data for specimen:
 - Nodes
 - Elements
 - Sets for boundary definition
 - Sets/Nodes/Elements for evaluation of stress/strain/force/displacement
- Solver definitions, test setup (e.g gauge, fin, ...) and material card will be defined by VALIMAT™



VALIMAT™ – New available Material Cards

- General
 - Review and bug fixing of yet implemented material cards
- LS-DYNA
 - MAT_081 MAT_PLASTICITY_WITH_DAMAGE
 - MAT_089 MAT_PLASTICITY_POLYMER
 - MAT_215 MAT_4A_MICROMECH
 - MAT_ADD_EROSION improved
 - MAT_024
 - MAT_124
 - MAT_187
 - MAT_058 strainrate dependence of failure added

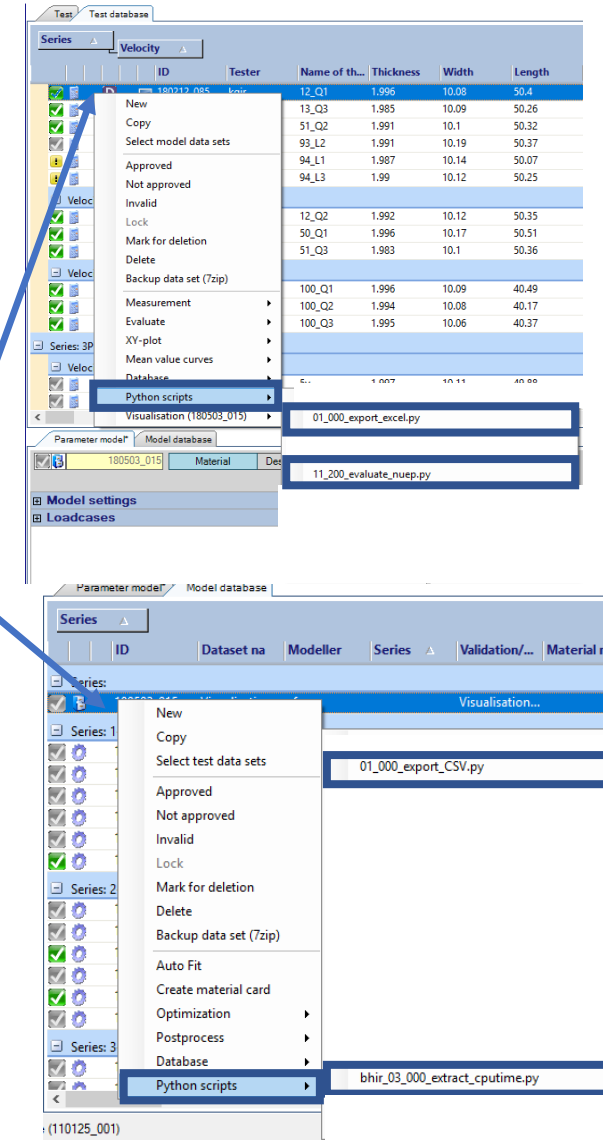
VALIMAT™ – New available Material Cards

- PAM-CRASH
 - MMM strainrate dependance of damage added
- Hardening Functions
 - New Variable h_scale0 at „4a model (nue 0.5)“ and „4a model (nue)“
 - Used in scaling the bending based curve to tension or compression
- Damage and Failure Functions
 - Xue Wierzbicki (2D + 3D)
 - Mohr Coloumb (2D)

VALIMAT™ – Python Scripts

- With the new Version of VALIMAT™ some python scripts are included
- Test Database
 - 01_000_export_csv.py
 - Copy test settings and test results to a .csv file
 - File is stored at curvestore folder
 - 11_200_evaluate_nuep.py
 - Generates graph $\eta_{\text{plastisch}}$ vs. time
 - Needed: Tensile Test with the channels 40 and 41

Right Click



VALIMAT™ – Python Scripts

- With the new Version of VALIMAT™ some python scripts are included
- Model Database
 - 01_000_export_csv.py
 - Copy model settings and model results to a .csv file
 - File is stored at model folder
 - 03_000_extract_cpu_time.py
 - Displays the cpu time of the simulation

Right Click

