Z-SET

Starting with Z-set

This training is an introduction to structural analysis with Z-set, software for the calculation and analysis of non-linear structures and materials.

This introductory course gives a quick and comprehensive introduction to the applications of Z-set software. It is recommended to engineers who are willing to use Z-set as a finite element solver for the simulation of general non-linear thermomechanical problems.
This one-day training provides basic knowledge about the workflow and setup steps to perform nonlinear structural analyses with Z-set.
Questions about the Zebulon FE solver will be answered.

LEVEL

Beginner

PREREQUISITES

A good basic knowledge of Finite Element Analysis is required.

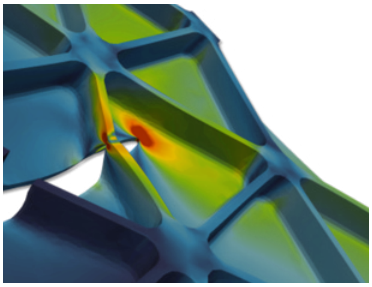
GOALS

- **Understanding of Z-set's simulation workflow**
- **Data setup for non-linear structural analysis**
- **Launching computations**
- **Visualization, interpretation and analysis of results**
- **Performing simple post-processing analyses**

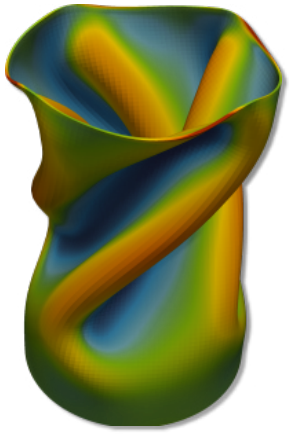
TRAINING	DURATION	PRICE EXCL. TAX	PARTICIPANTS
In-company	1 day	€1400 per training	1 to 3 people

DAY 1 > 8.30 a.m. to 12.00 p.m. & 1.30 p.m. to 5.00 p.m.

Introduction	• Presentation of Transvalor • Course goals
Simulation workflow and setup	• Quick review of software installation (Linux, Windows), environment variables • Presentation of Z-set's distribution (documentation, tests base) • Presentation of software modules and specific input files (mesh, material file, main simulation input file, post-processing input file) • Running commands, keywords (-m, -pp) • Mesh generation with Z-master, mesh import • Detailed presentation of Zebulon input file • Prescribing boundary conditions • Rheology, material card, material data • Output controls • Application to tutorials (2D, 3D, linear, nonlinear)
Computation	• Quick launch, multicore execution • Computation restart procedure
Results analysis	• Results files • Results visualization: displacements, reactions, Von Mises, material variables • Basic data extraction (nodal values, visualization on element sets) • Visualization of curves, animations • Results postprocessing (simple example)
Conclusions	• Questions and course assessment



Simulation of fatigue crack growth in an Isogrid Panel (collaboration with AIRBUS and Constellium)



Plastic torsional buckling of a thin-walled tube