



Structural Analysis & Design Software

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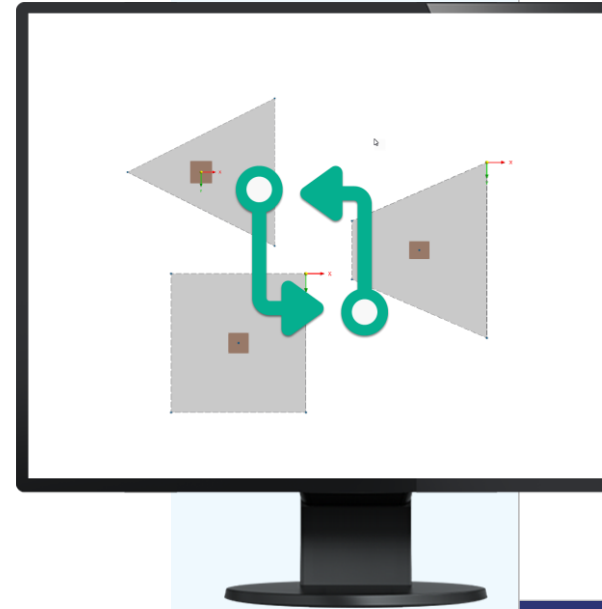


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Co-Organizer

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Webinar

Shape Optimization of Tapered Members



Questions During the Presentation



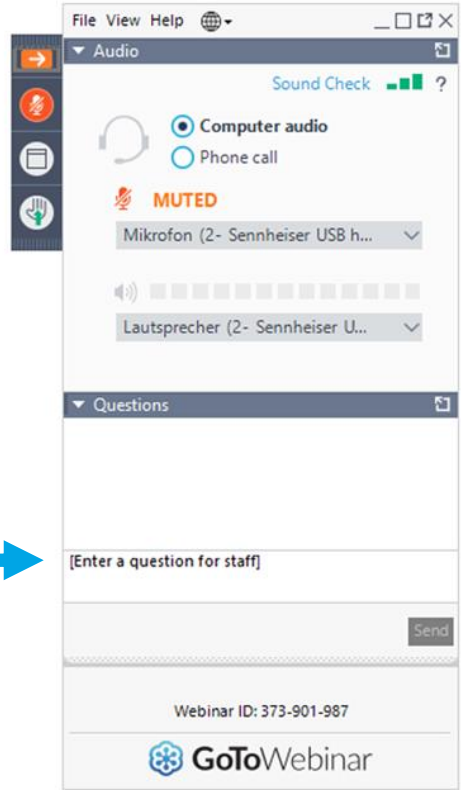
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Content

01 Describing the structural task

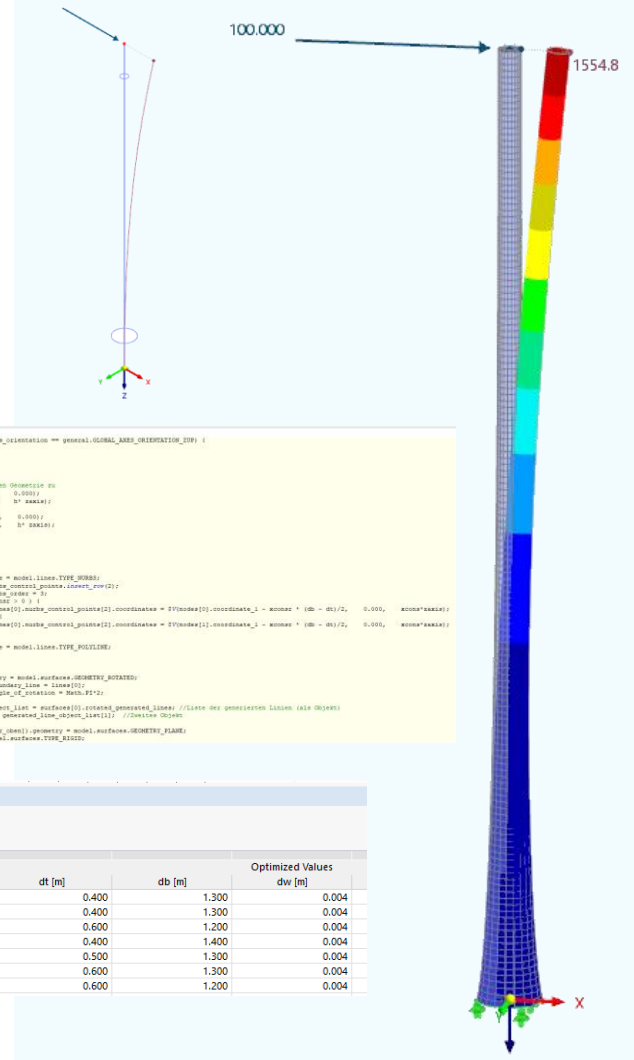
02 Creating the initial model

03 Parameterizing the model geometry

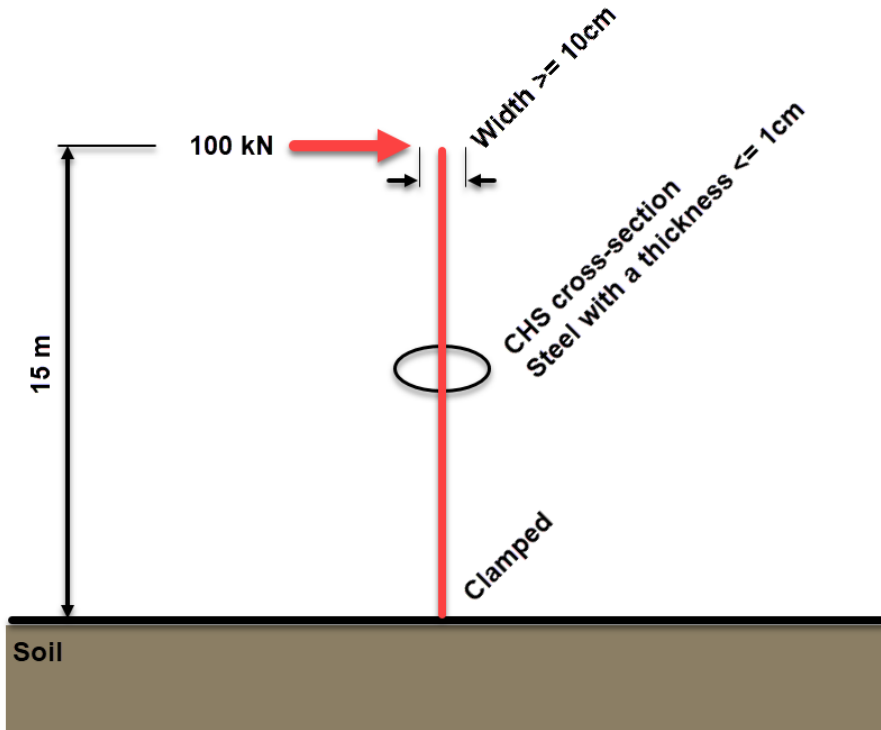
04 Evaluating the results

```
meshes
if (general.global_axis_orientation == general.GLOBAL_AXIS_ORIENTATION_TUP) {
} else {
    axes = -1;
}
//Main Set: Rotation class Object to
Mod(1,0,0, 0.000, 0.000);
Mod(1,0,0, 0.000, 0.000, b* axes);
Mod(1,0,0, 0.000, 0.000);
Mod(1,0,0, 0.000, 0.000, b* axes);
//Exchange Lines
Line(0, 0, 1);
if (axes != -1) {
    lines[] <type = model.lines.TYPE_MESH;
    lines[] mesh_control_points_lower = F'nodes[]:coordinate_1 - nodes * (b - db)/2, 0.000, nodes*axes;
    lines[] mesh_upper = F'
    lines[] mesh_control_points[]:coordinate_1 - nodes * (b - db)/2, 0.000, nodes*axes;
} else {
    lines[] <type = model.lines.TYPE_POLYLINE;
}
//Create Surfaces
Surface(0, [0].geometry = model.surface.GEOMETRY_ROTATED;
surface[]:rotated_lower_line = lines[];
surface[]:rotated_upper_line = Math.F1';
var generated_line_upper_line = surface[]:rotated_upper_line; //Liste der generierten Lines (als Object)
var line_number_obj = generated_line_upper_line[]; //Object Object
Surface(0, line_number_obj[]:geometry = model.surface.GEOMETRY_FLAME;
surface[]:type = model.surface.TYPE_RIGID;
```

Optimization						
Go To Edit Selection View Settings						
Optimization						
Order	Model Name	Target Value				Optimized Values
1	Model.350	1.258	dt [m]	0.400	db [m]	1.300
2	Model.149	1.258		0.400		1.300
3	Model.167	1.273		0.600		1.200
4	Model.330	1.283		0.400		1.400
5	Model.187	1.293		0.500		1.300
6	Model.210	1.303		0.600		1.300
7	Model.365	1.332		0.600		1.200



Structural Task

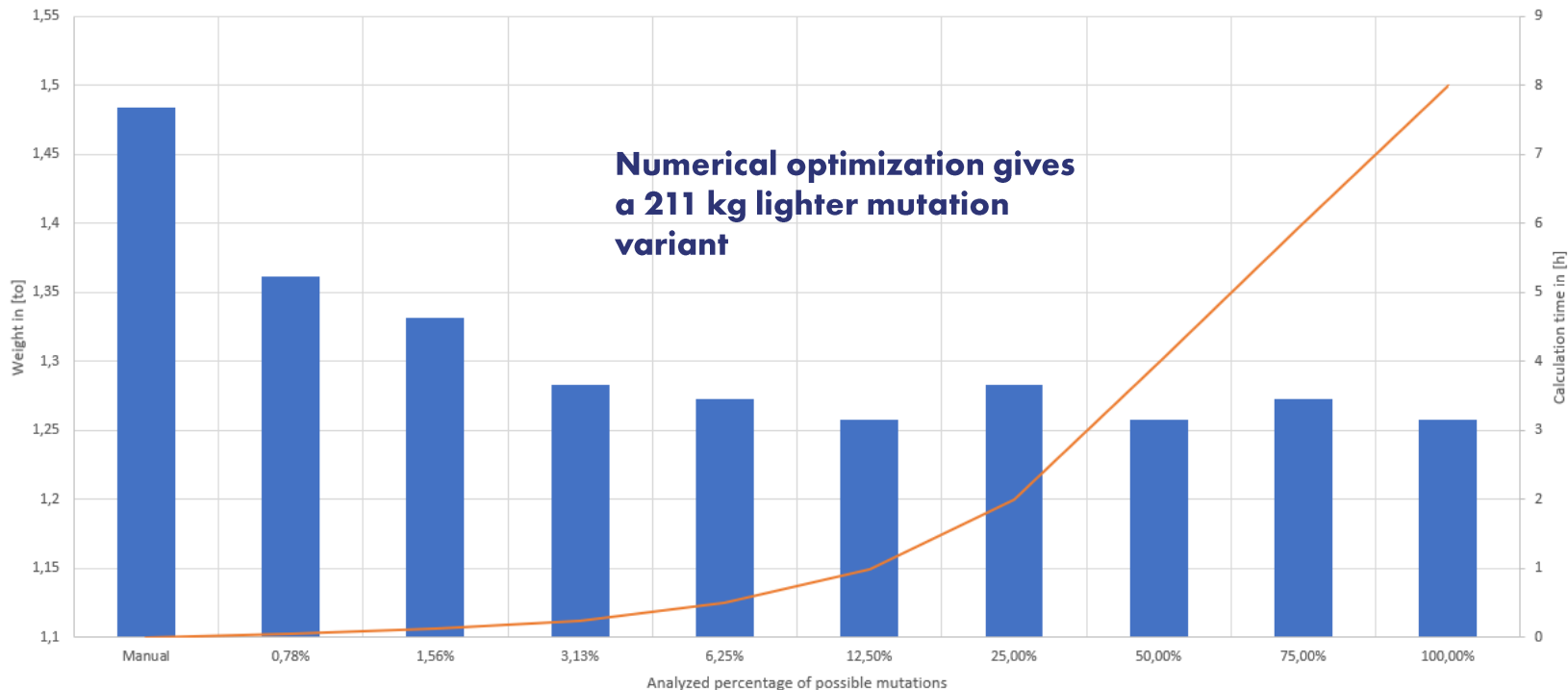


Search for the smallest weight



Results

Optimization of global parameter values





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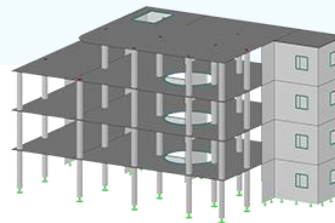
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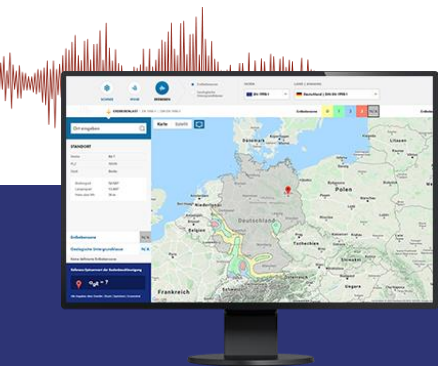


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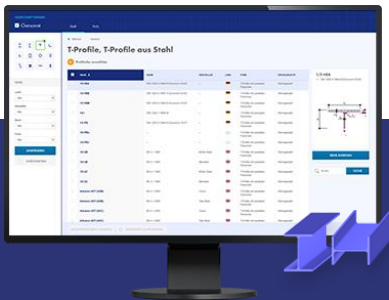
Geo-Zone Tool

Dlubal Software provides an online tool with snow, wind and seismic zone maps.



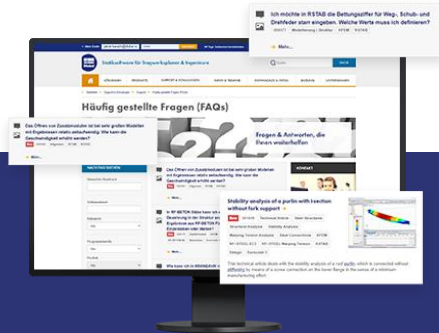
Cross-Section Properties

With this free online tool, you can select standardized sections from an extensive section library, define parametrized cross-sections and calculate its cross-section properties.



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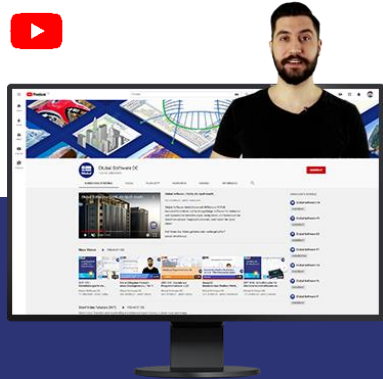




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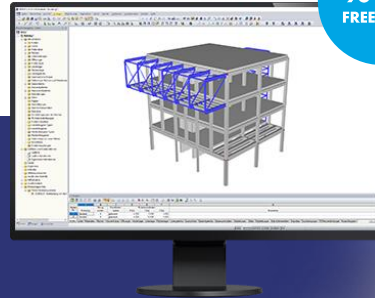
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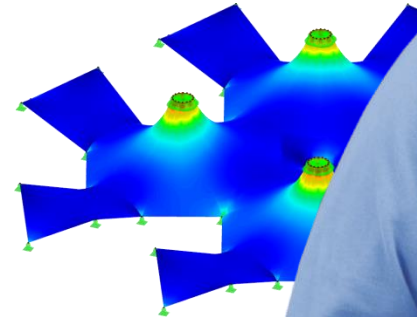
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