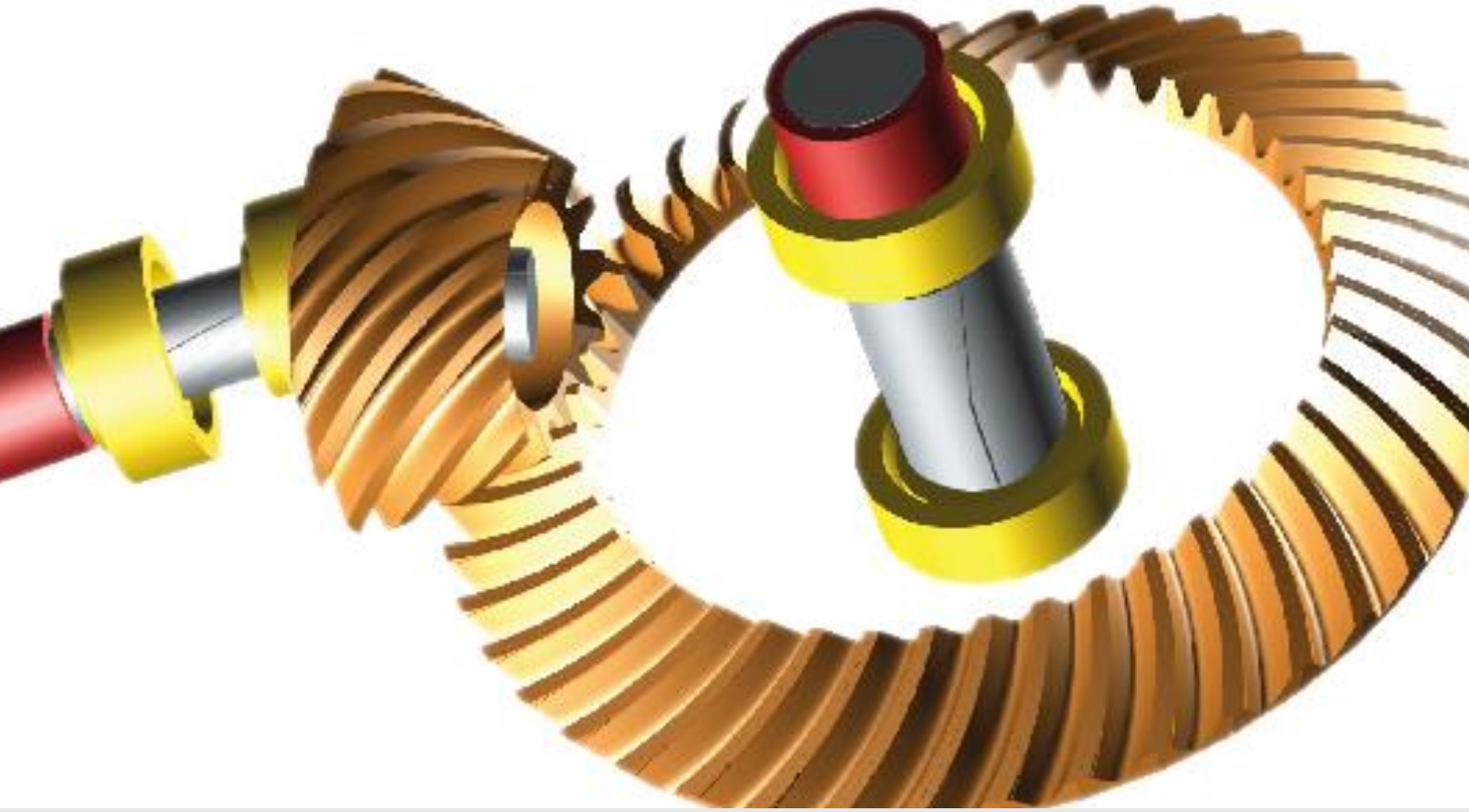
Drivetrain Design Solutions KISSsoft

KISSsoft Live Stream Training

Calculation of Bevel and Hyoid gears (Special)

September 6-9, 2021



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Sharing Knowledge

Day 1 – September 6, 2021

2:00 – 2:15 pm	Welcome
2:15 – 3:25 pm	Cutting methods for straight and helical bevel gears Cutting methods Face Hobbing, Face Milling and its specialties
3:25 – 3:40 pm	Break
3:40 – 6:00 pm	Calculation of geometry according to ISO 23509
Exercises	**Input from a Gleason dimension sheet**

Day 2 – September 7, 2021

2:00 – 2:15 pm	Exercise follow up
2:15 – 3:40 pm	Strength calculation according to different standards such as ISO 10300, AGMA, etc.
3:40 – 3:55 pm	Break
3:55 – 6:00 pm	Other calculations such as scuffing, flank fracture, efficiency, etc.

Day 3 – September 8, 2021

2:00 – 3:40 pm	Design of spiral bevel and hypoid gears
3:40 – 3:55 pm	Break
3:55 – 5:00 pm	Sizing for strength and noise
5:00 – 6:00 pm	Differential bevel gears
Exercises	**Sizing of a bevel gear pair**

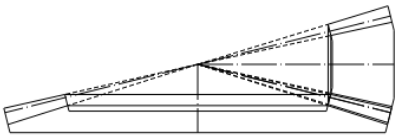
Day 4 – September 9, 2021

2:00 – 2:15 pm	Exercise follow up
2:10 – 3:40 pm	Contact analysis and micro geometry
3:40 – 3:55 pm	Break
3:55 – 5:00 pm	Manufacturing processes
5:00 – 6:00 pm	Bevel gears in transmissions

Training Scope

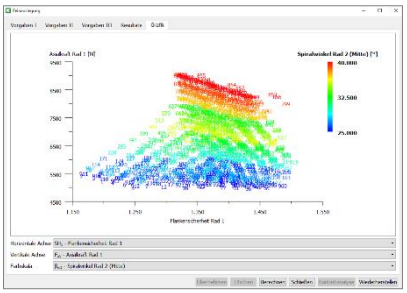
Cutting Methods and Geometry

- Cutting methods for straight and helical bevel gears
- Cuttung methods Face Hobbing, Face Milling and its specialties
- Different cone for bevel and hypoid gears
- Calculation of geometry, virtual cylindrical gear



Strength Calculation

- Strength calculation according to different standards
- Scuffing according to ISO/DTS 10300-20
- Flank fracture according to ISO/DTR 19042

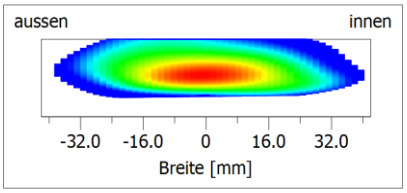


Design of Bevel Gears

- Rough sizing, relevant parameters
- Fine sizing, optimization of bevel and hypoid gears
- Microgeometry

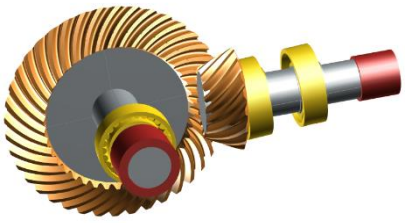
Contact Analysis

- Determination of EPG displacement with KISSsys
- Contact analysis, contact pattern and transmission error
- Optimization using gear modifications



Processes

- Design processes for conventional manufacturing (GEMS®) and 5-Axis milling
- Generating 3D models, check of contact lines
- Topological modifications



Bevel gears in transmissions

- Bevel and hypoid gears in KISSsys models
- Rear axle, industrial gear boxes, etc.
- Calculation of EPG values