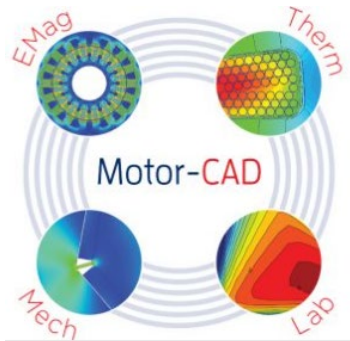




CFD models for cooling of hairpin windings

Postdoc: An Zhao

Period: 08-2020 to 08-2022



STandUP
for
ENERGY

SCANIA



- Objectives
 - Implementation of parameterized hairpin-winding and end-space geometries in three dimensions
 - Simulation of different cooling methods for the end-space regime via CFD
 - Using the implemented models, determination of selected figure of merits including cooling capability, pump requirements, equivalent heat-transfer coefficients
 - (Analysis of the electromagnetic losses arising in the end-winding region)
- Funding and collaborations
 - Funding: STandUP for ENERGY
 - Industrial Partner: Scania
- Results so far
 - On going literature review on the state-of-the-art of thermal modeling and different cooling methods for electric machines