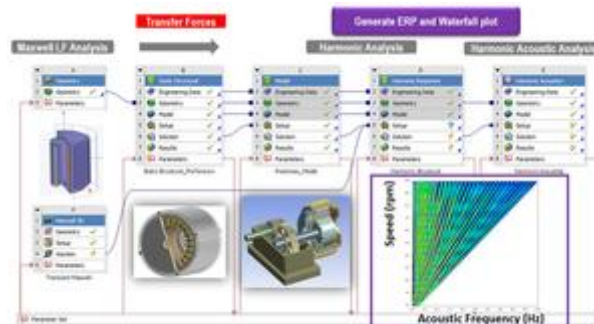


ANSYS Electromagnetics Product Update 2019 R1

Electronics Desktop and Multiphysics

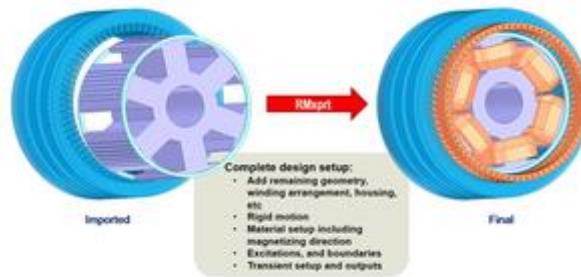
- New coupling of Maxwell-Eddy Current to Fluent-Transient (eg induction heating)
- Integrated Noise Vibration Harshness Analysis (Maxwell Transient - Mechanical) workflow
- Integration of Slwave DCIR into the ANSYS Electronics Desktop (eg 1-way electrical-thermal coupling to Icepak for thermal analysis on the basis of thermal conditions stored in Icepak)
- Two-way coupling of Icepak with HFSS or Maxwell (electromagnetic-thermal)



NVH workflow from Maxwell to Mechanical via the ANSYS Workbench

ANSYS Maxwell

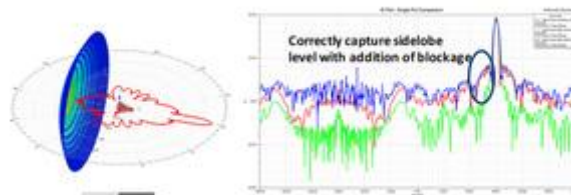
- Import of own motor geometries in RMxprt
- Calculation of transient DQ parameters
- Automatic EdgeCut meshing to take account of manufacturing influences on eg electrical sheets
- Improved skin depth meshing: Maintaining skin depth meshing during adaptive mesh re-growth
- Use of variables to determine the fields to be stored in transient analyzes



Import of own geometries in RMxprt

ANSYS HFSS / HFSS 3D layout

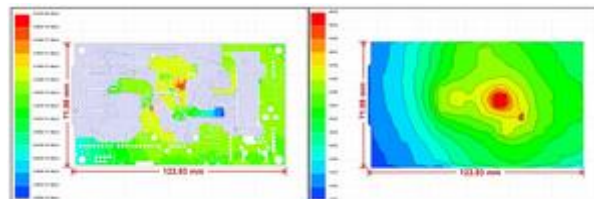
- HFSS SBR +: "Blockage" option: Simplified and accelerated consideration of passive bodies on beam propagation
- Numeric de-embedding of the port inductance
- Hybrid FEM-MoM solution: Intelligent neglect of source-free regions to avoid local network refinement and corresponding increase in computing time
- New ECAD-MCAD mesh assembly process for faster creation of an initial network



Blockage option for linking HFSS to SBR +

ANSYS SIwave / Icepak

- Integrated testing algorithm for consideration of EMC criteria: "ERC" - EMI Rules Checker
- Electromigration analysis for failure estimation (according to Blackscher equation)
- Improvement of the HFSS region in SIwave:
 - Parallelized frequency sweeps for each region
 - Deletion of irrelevant Net fragments to speed up the analysis
- Import of archived projects from Classic Icepak (*.tzt)
- Record-based constraints in Icepak. 1D for temperature-dependent, 2D and 3D for location-dependent: power, temperature, pressure, velocities, heat flow, heat transfer coefficient
- Improved Icepak crosslinker



Electromigration analysis in SIwave