35th Edition

VECTOR

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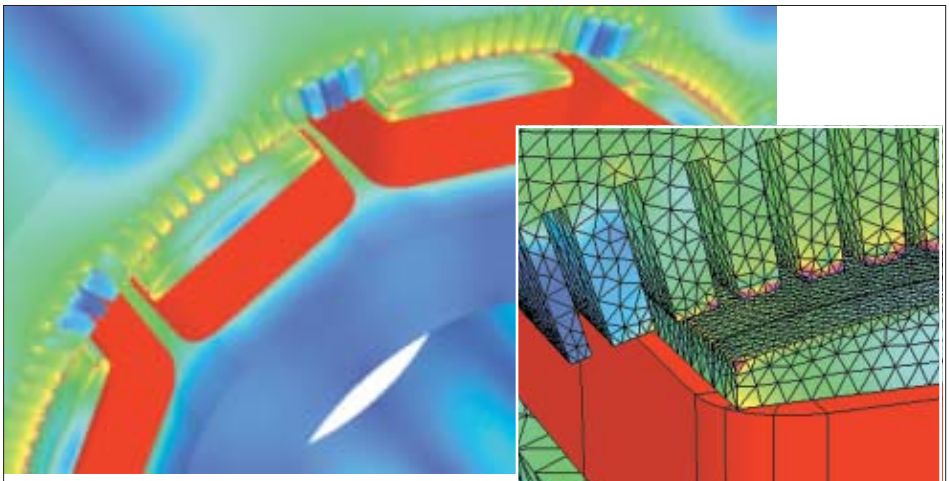
OPERA Version 9 and TEMPO

for Electromagnetic and 3D Thermal Analysis



Flux density in a waterwheel generator

The rate of development of the OPERA suite has increased considerably over the past year. The team at Vector Fields Oxford headquarters, has been increased yet again and the results of this are now becoming available to customers in Version 9. Since the introduction of version 8.5 a year ago version 8.7, released in October, included almost 300 improvements and now Version 9.0 includes a further 350.

A new module, TEMPO, in OPERA-3d for thermal analysis has been introduced. This is a major development in conjunction with one of our most important customers in the USA for 3D analysis of large turbo generators but is applicable to a wide range of thermal applications. It can be operated as a stand-alone module or using output from any of the OPERA-3d analysis modules.

Four types of boundary condition are supported:

- fixed temperature
- perfect insulators
- heat flux
- heat transfer to fixed temperature medium

The OPERA-3d Modeller has been improved again with options allowing bodies to be bent, twisted, stretched and morphed. A further new facility is the ability to specify layers where small gaps or thin sheets are required in applications such as shielding and magnetic recording heads. This overcomes the unnecessarily large increase in mesh size which would otherwise result, with subsequent reduction in computation time. BH data definition has been improved with a new graphical interface. BH data files are interchangeable with all OPERA-2d and OPERA-3d modules that support non-linear magnetic materials.

These improvements in Version 9 are a further refinement of an already impressive suite of software for electromagnetic analysis and simulation. It emphasises Vector Fields committment to maintain its leading position in providing efficient, reliable tools for electromagnetic design. This is backed up by expert application advice from the team of engineers and physicists at our offices and distributors.

To further assist our customers in specialist applications we have introduced two new training courses:

- Modelling of Electrical Machines with the OPERA Software
- Magnet Technology with the OPERA Software.

Both of these courses assist our customers to develop skills for efficient design using the advanced features of OPERA.

These advances further enhance the VF reputation for providing world leading software and application advice.

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