

INDUCTO

3D and 2D/RS Coupled
Electromagnetic/Thermal Software

INDUCTO is a 2D/RS program that provides coupled electromagnetic and thermal field analysis. **INDUCTO** combines the **OERSTED** eddy current and **KELVIN** thermal software packages to provide the complete solution for induction heating analysis

INDUCTO can perform both **transient** and **steady-state** simulations. In addition, the **OERSTED** and **KELVIN** modules can be used separately when coupled simulations are not required.

Using **INDUCTO** designers can:

- determine temperature distribution at all points within a work piece
- calculate effective resistance and reactance of induction coils
- calculate total power requirements for induction heating systems
- custom design coils to accommodate specific induction heating applications
- design flux concentrators, magnetic shunts and electromagnetic shields
- investigate effects of transient heating and cooling regimes

Choose your design environment

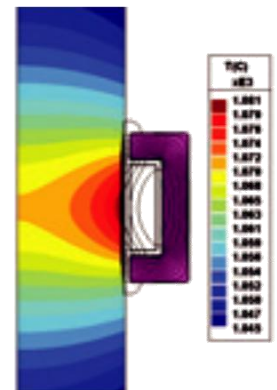
INTEGRATED as a part of your software ecosystem

Whether your favorite design environment is Excel, MATLAB® or Visual Studio, our Application Programming Interface (API) allows you to seamlessly develop your own specialized analysis tools or develop tools for others.

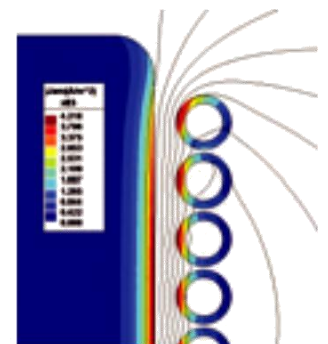
Users or developers can call our electromagnetic, thermal or particle trajectory functions to create customized applications with relative ease. These customized software programs may also call other APIs to combine their power.

Customize your application and bring your design to an even higher level of sophistication.

For many systems, it is **F** important for multiple solvers to be combined. **INTEGRATED** develops comprehensive solutions for scientists modeling prototypes that require multiphysics analysis.



Induction coil with flux concentrator. Color contours show temperature in workpiece



Color contours of current density in workpiece and in turns of tubular induction coil

Hybrid Simulation Tools for Electromagnetic and Particle Trajectory Design Analysis

**SOFTWARE THAT LIVES UP
TO THE POWER OF YOUR IDEAS**



INDUCTO

Key capabilities

- Coupled Electromagnetic/ Thermal 2D and rotationally symmetric field solver for induction heating applications
- Choice of BEM and FEM solvers for electromagnetic analysis
- API interface for customized script controlled applications
- Design optimization by powerful parametric solvers; scripting for fast automated custom designs
- Full parallel processing included – no extra charge
- Industry standard CAD import/export utilities
- Excellent graphic presentation
- Comprehensive technical support services from the best in the industry

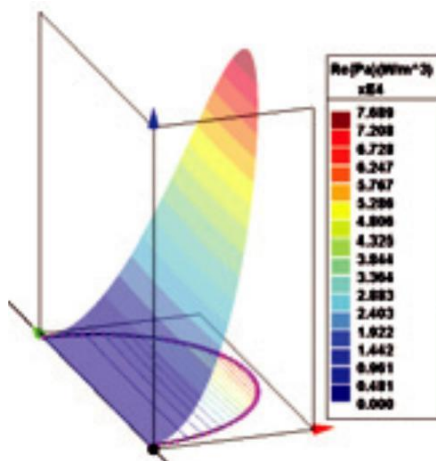
PUT OUR SOFTWARE TO THE TEST

Send us your model, whatever the level of complexity. We will show you how to get results from your exact design – no packaged demos.

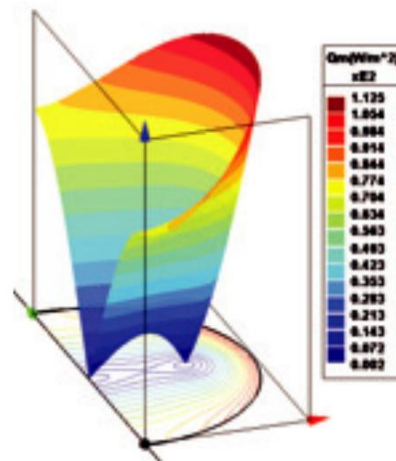
Contact us for an evaluation and start improving productivity today. A live demo is also available.

Visualize, Analyze, Optimize

INDUCTO provides outstanding visualization features for detailed analysis of induction heating systems. Automated model creation using built-in API and Parametric Utilities combined with Self-Adaptive BEM and FEM solvers enable rapid optimization of designs.



Profile plot of Joule loss power density induced in a sphere



Profile plot of heat flux produced by induction heating

INDUCTO comes complete and ready to use. No need to purchase additional modules or options; INDUCTO is a fully functional CAE tool. A partial list of standard features includes:

- Intuitive and structured interface maximizes productivity for experts and beginners.
- A variety of display forms, for plotting scalar and vector field quantities, including graphs, contour plots, arrow plots, profile plots and vector loci plots.
- High quality graphics and text utility for preparation of reports and presentations.
- Data exportable to formatted files for integration with spreadsheets and other software packages
- Batch function allows unattended solution of multiple files
- Self-adaptive meshing or optional user refinement
- Powerful parametric feature allows definition of variable parameters to be stepped through allowing the analysis of multiple “what-if” scenarios and facilitating design optimization
- A wide array of post-processing options for design evaluation and optimization
- CAD healing utilities for automatic correction of drafting errors
- Large library of permanent magnet and ferromagnetic materials; additional materials can be easily added

© 1985-2013. All software programs are copyright of Enginia Research Inc. All rights reserved. Printed in Canada.



INTEGRATED
ENGINEERING SOFTWARE

220 – 1821 Wellington Avenue, Winnipeg, Manitoba, Canada R3H
0G4 T: (204) 632.5636 F: (204) 633.7780 E: info@integratedsoft.com
www.integratedsoft.com