INTEGRATED provides outstanding visualization features for detailed analysis of electromagnetic and particle trajectory systems. Design optimization through parameter analysis, API scripting, and INTEGRATED software packages at no extra cost. This, combined with self-adaptive BEM and FEM solvers, enables the review of prototypes until the desired results are achieved, thereby cutting hours of design time, especially when various disciplines interact closely.

Parametrics provides an easy-to-use GUI based method of testing designs through a range of operating conditions, as well as providing basic design optimization performance.

The INTEGRATED API enables the direct control of program functions by utility scripts or macros created in tools such as Matlab, Excel and Visual Studio. Scripting can control fine tuning aspects of models, creation and testing.

Experience the speed of our multi-threading (or parallelization) capability in all software programs at no extra cost.

PUT OUR SOFTWARE TO THE TEST
Don’t take our word for it.
Contact us for a 30 day free evaluation and start improving productivity today. Ask for a live demo.

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VISUALIZE, ANALYZE, OPTIMIZE
SOFTWARE THAT LIVES UP TO THE POWER OF YOUR IDEAS
COMPLETE SOLUTIONS FOR ENGINEERING AND SCIENTIFIC DESIGN
GENERAL DOMAIN, WE SOLVE ALL ELECTROMAGNETIC MODELS

SEARCH BASED DESIGN SIMULATION: FROM DC TO TERAHERTZ TO efficient computational RF, MICROWAVE & thermal analysis.

FEM and provides both SINGULA (3D) and accuracy all in ease of use, speed and accuracy are at the core of INTEGRATED's electromagnetic software. Our software is the only clear choice for applications requiring large open region analysis and the exact modeling of boundaries. Hence, BEM gives the most satisfactory results for problems involving the modeling of space around the device: “large open regions.”

In addition, Finite Element Method (FEM) is also available in our software as an extra option. FEM is inherently suited to problems where the fields are bounded to a finite (closed) region. All our software programs incorporate a FEM solver method in addition to our proprietary BEM solver.

Thanks to BEM, only “active” regions require discretization. Thanks to BEM, only “active” regions require discretization. The combination of these two solvers provides the ability to check the validity of solutions using two completely different analysis methods. For high frequency applications, INTEGRATED presents a Finite Difference Time Domain Solver (FDTD) as one of its many advantages. Designers can analyze time domain solutions for a wide variety of radio frequency (RF) and antenna problems, without storage in time domain solutions.

Our software comes complete and ready to use. No need to purchase additional modules or options; all programs are fully functional CAE tools.

BEST OF BREED SOFTWARE TOOLS FOR ELEGANT SOLUTIONS

INTEGRATED GOES BEYOND TRADITIONAL MULTIPHYSICS:

- Search Based 3D and 2D Electric Design Software
- Metaheuristic approach for optimizing simulation based electromagnetic designs
- Precise calculation of electrical parameters using our proprietary Boundary Element Method (BEM) solvers
- Finite Element Method (FEM) in addition to BEM. This hybrid approach uses the strength of each method while designing an electromagnetic system
- Built-in ParaView and/or Scripting capabilities

The INTEGRATED APD enables the direct control of program functions by utility scripts or mouse inputs created in a customized environment. Scripting can control the entire process of model creation and testing.

Powerful Parametric feature allows definition of variable parameters to be stepped through allowing for the analysis of multiple “what-if” scenarios, facilitating design optimization.

MORE BENEFITS:

- Innovative “Cafe and Workshops” Editors in AMPERES and MAGNETO to analyze large number of load switching sources and loads.
- Electromagnetic (3D) Boundary Element Method (BEM) solvers for a diverse range of applications.
- Direct import of models from CAD Partners including: Autodesk, PTC, Solid Edge, and SolidWorks.
- High resolution 3D graphic representations that can show enhanced tracing of particle or charge.
- Automatic meshing and removal of internal and external regions.
- Batch function which allows unattended solution of multiple problems.
- Large library of materials which to additional materials can be easily added.
- Data reportage to formatted file for integration with spreadsheets and other software packages.
- World class support team ready to unlock your ideas.

VERSATILE FIELD SOLVERS IN ONE SOFTWARE PACKAGE BEM, FEM or FDTD: CHOOSE THE RIGHT TOOL FOR YOUR APPLICATION

Since 1984, INTEGRATED has been the sole industry provider of Boundary Element Method (BEM) CAE software. BEM not only provides the most accurate numerical field solutions, but also software for the analysis of multiple “what-if” scenarios, facilitating design optimization.

In addition, Finite Element Method (FEM) is also available in our software as an extra option. FEM is inherently suited to problems where the fields are bounded to a finite (closed) region. All our software programs incorporate a FEM solver method in addition to our proprietary BEM solver.

The combination of these two solvers provides the ability to check the validity of solutions using two completely different analysis methods. For high frequency applications, INTEGRATED presents a Finite Difference Time Domain Solver (FDTD) as one of its many advantages. Designers can analyze time domain solutions for a wide variety of radio frequency (RF) and antenna problems, without storage in time domain solutions.

Why should you use BEM?

For more than 30 years, INTEGRATED has aided in the creation of the Boundary Element Method (BEM). Your role, after all, is to create your designs to improve your novel field solver, refining it into a sophisticated, reliable field solver trusted by our customers.

The perfection of our BEM solver is hard to be replicated. Many years of development have produced a unique and sophisticated boundary element code to analyze complex open region problems.

Our software is the only clear choice for applications requiring large open region analysis and the exact modeling of boundaries.