SIMULIA

3DEXPERIENCE

IDEM FLYER



IdEM is a user friendly tool for the generation of SPICE-ready macromodels of electrical interconnect structures such as packages, connectors, via fields, discontinuities up to backplane links and complete power delivery networks. Starting from their input-output port responses, derived from measurement or simulation, IdEM provides accurate, proven, passive and causal broadband computational models that can be used in any circuit simulation environment for reliable transient and AC analyses.

BEST-IN-CLASS FEATURES

Causality – A proprietary causality check module allows detecting possible measurement/simulation errors that compromise the physical consistency of the raw data.

Passivity – Top-class algorithms are available for model passivity enforcement, ensuring safe use of models in systemlevel EMC/SI/PI simulations.

Multiprocessing – An advanced module enables multithread capabilities, with an extraordinary speed-up in simulation time and guaranteeing an efficient macromodeling of everlarger structures.

MAIN FEATURES

Fully-developed GUI – All IdEM algorithms are linked to an intuitive Graphical User Interface.

Multiplatform – IdEM is available for Windows and Linux platforms.

Easy to use – Little expert knowledge is needed for using most algorithms with standard settings. Flexible and powerful – A rich set of control parameters is available for advanced users.

Accurate and efficient – IdEM uses state-of-the-art fitting algorithms for rational approximations with guaranteed passivity.

Unlimited ports – Splitting strategies are adopted for handling large port counts without excessive memory requirements.

Data import – Import filters are available for Touchstone and other common data formats.

Model export – Models can be synthesized as equivalent circuits into common SPICE formats.

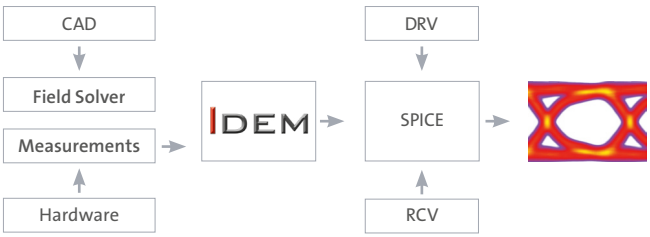
Broadband model extraction – IdEM extracts broadband models from frequency-domain (scattering parameters) or transient sampled responses, coming from field simulations or direct measurements. A suite of advanced and wellconditioned rational fitting modules grants applicability to virtually any kind of characterization. The resulting models are cast in common SPICE formats for the system-level simulations required in your design flow. Thus, IdEM enables SPICE processing for any kind of linear structure, whether component, interconnect, package – whatever your native characterization and application area is.

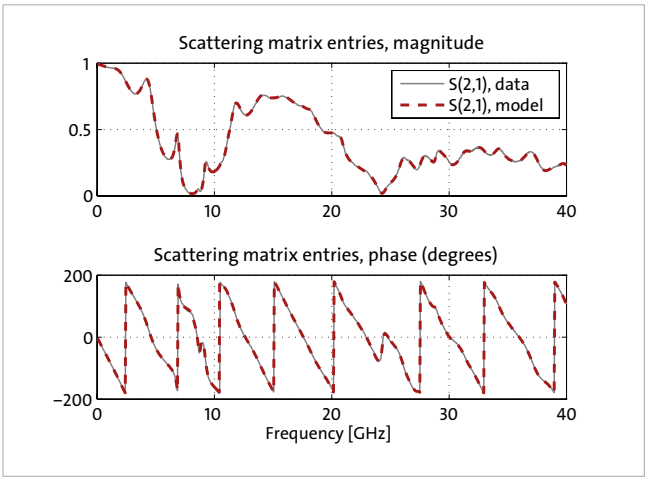
DASSAULT SYSTEMES

Why IdEM? – IdEM uses best-in-class algorithms to build macromodels, including a proprietary data causality certification module based on Hilbert transform, highly scalable rational fitting modules enabling unlimited port counts, and top-class passivity enforcement schemes for safe and stable transient simulations.

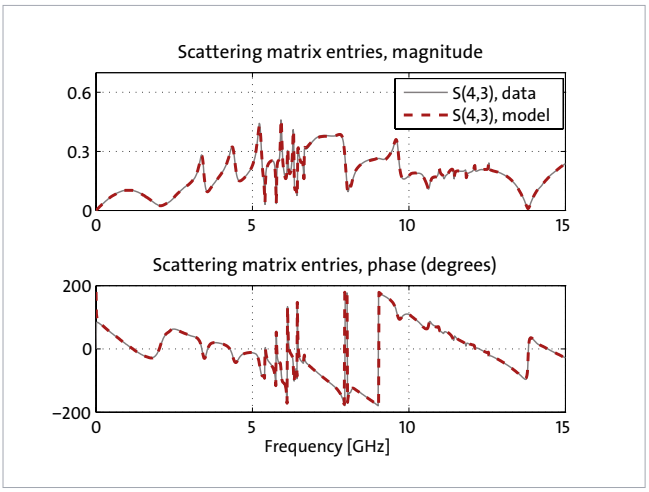
We invent algorithms – We invent algorithms – We maintain strong links with world leading research groups in the field of modeling and simulation. This helps to transfer the latest technology fast and directly to our software. Our tools include native formulations of modeling algorithms and implementations that deliver models of unprecedented accuracy and robustness. We are committed to customer satisfaction and open to your requests to improve our software.

Flexible and powerful – The IdEM GUI is intuitive, simple, and effective. You get your models using standard configuration settings in few mouse clicks. An advanced module, IdEM MP, is also available to push IdEM performance and model larger structures within impressive simulation times. IdEM MP can run interactively from IdEM GUI or independently through batch (OS shell) scripts making all algorithms accessible at low level with a rich set of options.

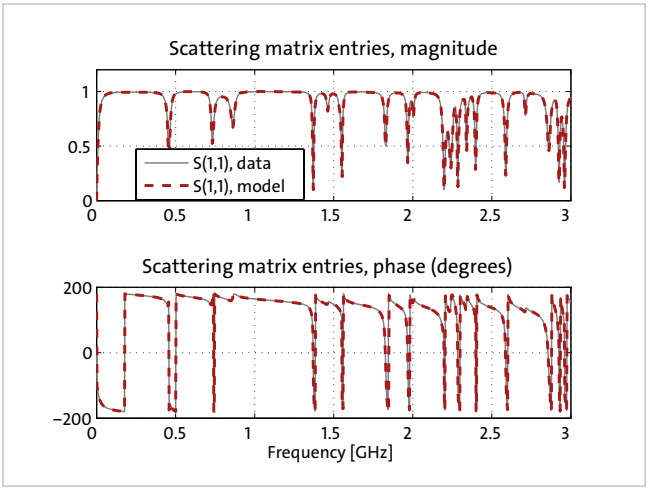




A stripline model



A connector model



A power bus model

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