



Hermes

3D Full-wave EM Simulation Platform for Next-generation Electronic Systems

Highlights

1

Hermes is the industry's leading system-level 3D electromagnetic simulation platform. It provides package/board-level signal model extraction and electromagnetic simulation of arbitrary 3D structures.

2

Hermes Layered is for electromagnetic simulation of package and PCB with the FEM3D solver. It supports various PCB and package designs, such as WireBond, FlipChip and 2.5D/3D package.

3

Hermes 3D is for electromagnetic simulation of arbitrary 3D structures with the FEM3D solver. It can import mainstream CAD designs, such as SAT and STP files. It also can create and edit arbitrary 3D models.

4

Hermes X3D is for RLCG parameter extraction of interconnections with quasi-static MOM solver. It can also generate equivalent SPICE models and S-parameter models.

5

Hermes supports distributed parallel computing to improve the simulation efficiency. It can also use Xpeedic's JobQueue to manage the simulation tasks automatically.

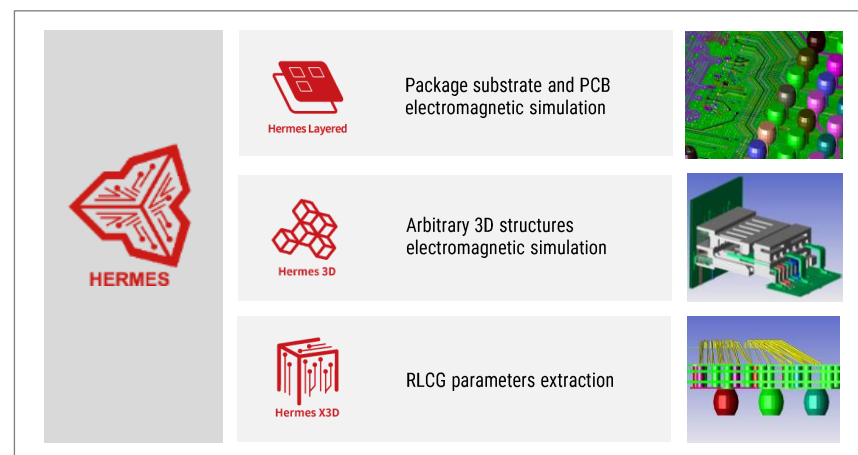
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Hermes integrates XAI's optimization algorithms, significantly enhancing AI optimization efficiency through a Bayesian optimization framework, and incorporates the Copilot knowledge base, enabling script writing and knowledge content retrieval



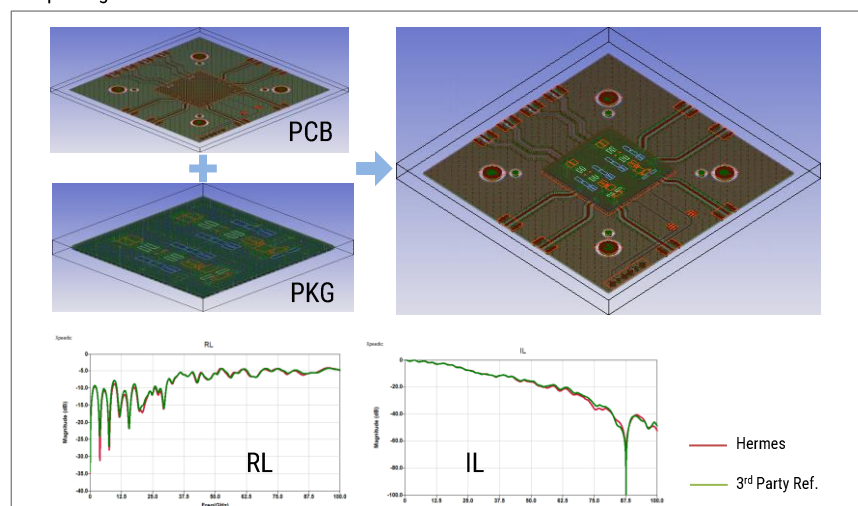
Overview

- Hermes is 3D full-wave electromagnetic simulation platform for next-generation electronic systems.
- Hermes is targeting high-frequency electronic products design and simulation, such as boardlevel antennas & antenna arrays, radio frequency or microwave components, high-speed interconnects, connectors, IC packages and PCBs.



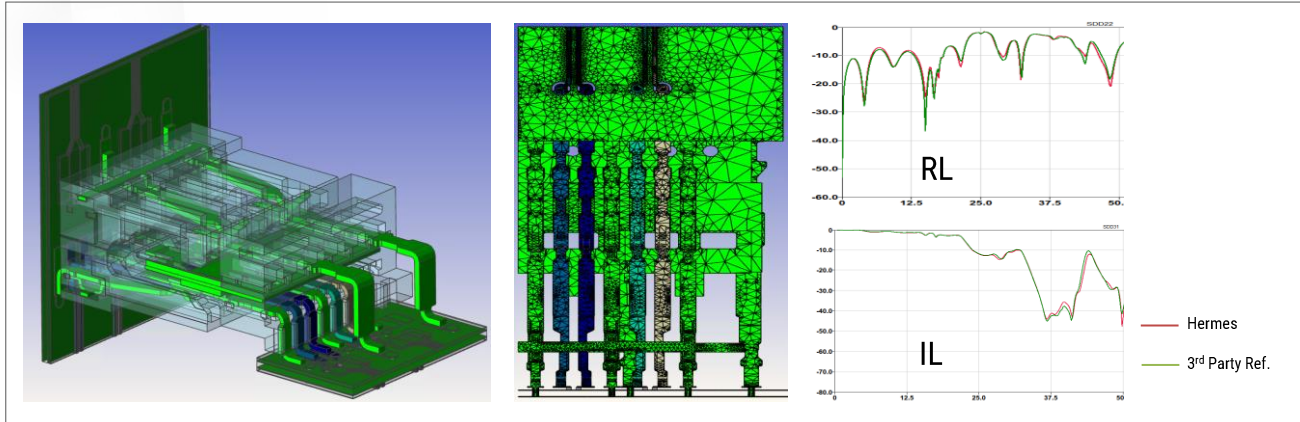
Hermes Layered for Package/PCB/ Package+ PCB Analysis

- Package substrate, PCB board modeling and EM simulation.
- Lead frame package templates to create QFN and QFP structures.
- Attached Package-PCB co-simulation is supported to include the coupling effects between package and PCB.



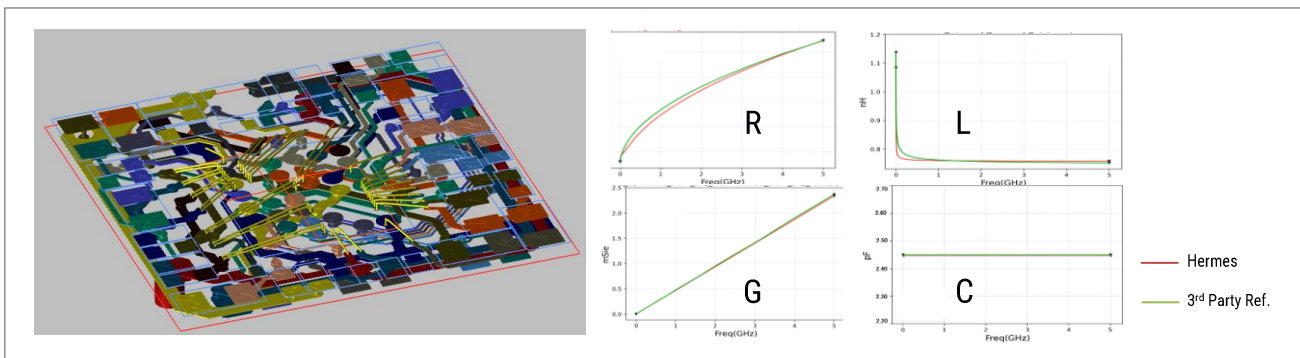
Hermes 3D for Arbitrary Structures

- Arbitrary 3D structure modeling and EM simulation with full-wave FEM3D engine.
- Support SAT, STP, XDB, DXF designs.
- Manual creation, edition and assembly of arbitrary 3D models for EM analysis.



Hermes X3D for RLCG Parameter Extraction

- Extraction of frequency-dependent resistance, inductance, capacitance, and conductance (RLCG) parasitic parameters for interconnections of package substrates, PCBs and arbitrary 3D structures.
- Generation of equivalent SPICE models and S-parameter models for signal integrity, power integrity and EMC analysis.



Hermes XAI for Optimization and Copilot knowledge

- Hermes integrates XAI's optimization algorithms and leverages Bayesian optimization to drive AI model optimization efficiency, achieving more than ten times faster acceleration compared to traditional algorithms.
- It integrates the Copilot knowledge base, enabling script writing and knowledge content retrieval.

