Computationally Efficient Modeling and Simulation of Large Scale Systems

A highly efficient and accurate interconnect simulation technique greatly reduces computation time and hardware demands for complex integrated circuit design software.

Due to the increasing complexity of integrated circuits, computer-aided design software currently requires high-speed computer software.

Purdue University researchers have developed a technology that is an efficient and accurate interconnect simulation technique that provides a compact set of modeling equations which greatly reduces computation time and hardware demands. A new formula is introduced, providing methods to calculate the sparse inverse efficiently. In turn, this formulation can then be used to solve each step of the simulation very efficiently.

Advantages:

-Computationally and memory efficient

-Highly accurate results

Potential Applications:

-Computer Technology

TRL: 7

Intellectual Property:

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Keywords: interconnect simulation, computer-aided design, integrated circuits, computation time reduction, hardware demands reduction, modeling equations, sparse inverse, simulation efficiency, memory efficient, computer technology, Computer Technology, Computer Technology; Computer Technology, Mechanical Engineering

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