



# Interconnect Technology and Design for Gigascale Integration

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Book Condition: New. Publisher/Verlag: Springer, Berlin | This book is jointly authored by leading academic and industry researchers. The material is unique in that it spans IC interconnect topics ranging from IBM's revolutionary copper process to an in-depth exploration into interconnect-aware computer architectures. | 1. Interconnect Opportunities for GSI.- 1.1 Introduction.- 1.2 The Interconnect Problem.- 1.3 Reverse Scaling.- 1.4 System-on-Chip.- 1.5 Three-Dimensional Integration.- 1.6 Input/Output Interconnect Enhancements.- 1.7 Photonic Interconnects.- 1.8 Conclusions.- 2. Copper BEOL Interconnects for Silicon CMOS Logic Technology.- 2.1 Introduction.- 2.2 BEOL Evolution.- 2.3 The Case for Copper.- 2.4 Electroplating of Cu.- 2.5 Reliability of Cu Interconnects.- 2.6 Processing of Cu Interconnects.- 2.7 Summary.- 3. Interconnect Parasitic Extraction of Resistance, Capacitance, and Inductance.- 3.1 Introduction.- 3.2 Electromagnetic Formulation.- 3.3 Resistance Extraction.- 3.4 Capacitance Extraction.- 3.5 Inductance Extraction.- 3.6 Summary.- 4. Distributed RC and RLC Transient Models.- 4.1 Introduction.- 4.2 Distributed RC Models.- 4.3 Distributed RLC Models.- 4.4 Non-Ideal Return Paths.- 4.5 Summary.- 5. Power, Clock, and Global Signal Distribution.- 5.1 Introduction.- 5.2 Global Signal Interconnect Modeling.- 5.3 Global Clock Distribution Modeling.- 5.4 Global Power Distribution Modeling.- 5.5 An Integrated Architecture for Global Interconnects.- 5.6 Conclusions.- 6. Stochastic Multilevel Interconnect Modeling and Optimization.- 6.1 Introduction.- 6.2 Wire-Length Distribution...

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-- **Garry Lind**

*Thorough guideline! Its this type of good read. It is really simplistic but shocks from the 50 percent from the publication. It is extremely difficult to leave it before concluding, once you begin to read the book.*

-- **Sallie Wiegand**