



FIRST INTERNATIONAL NANOTECHNOLOGY CONFERENCE ON COMMUNICATION AND COOPERATION

Abstract

Carbon Nanotube Technologies for Future ULSI Interconnects

A carbon nanotube (CNT) exhibits not only unique atomic arrangements but also interesting physical properties as well, such as highest current density exceeding $1E9 \text{ A/cm}^2$, ultra-high thermal conductivity as high as that of diamond, ballistic transport along the tube. Their remarkable properties make CNTs one of the ideal materials for a wide range of applications. In this talk, we demonstrate the advantages of CNTs for ULSI interconnections, which we believe that it must be one of the most promising applications for metallic carbon nanotubes. . We report present status of CNT material technologies and the potential of metallic CNT vias for future ULSI interconnects.