

CNT HSPICE Modeling and Analysis

Survey

Name: _____

1. What is CNT? What properties make it different from existing Technology?

Carbon nanotube ~~is a~~ ~~one~~ ~~dimensional~~ ~~nanomaterial~~
Properties of CNT
1, electrical conductivity in orders of magnitude higher than copper
2, very high current carrying capacity
3, good field emitter

2. Explain various CNT synthesis process? And which is better?

evaluation of solid carbon in arc discharge
laser ablation, catalytic chemical vapor deposition
of carbon containing gases
catalytic chemical vapor deposition is better.

3. Differentiate CNFET and CMOS in terms of
a. Power dissipation (based on the HSPICE analysis)

CNFET = -4.8546×10^7
CMOS devices have low power consumption.

4. What are the critical issues in CNT technology that might be a design bottleneck?

Control of diameter chirality
Doping contacts
Novel architectures,
large scale production.
Development of inductive manufacturing processes.

Self Evaluation and Feedback

1. What more would you like to see included in this lecture?

~~ADD~~ I would like to see the more applications and its comparison (ie) the way it is more effective compared to other devices.

2. Will this lecture help you in your future to learn more about nano circuit design? If yes then how?

Yes because these lectures give us the basic idea required to understand the advancements in nano circuit design.

3. How effective you think you learnt through these two lectures

These lectures helped us to understand the basic concepts of what CNT is which will ~~help us to~~ make us easier to learn the advancements in CNT technology.

4. Are you more likely to register for a design course using emerging nano-devices

If there is an opportunity definitely I would like to register for design course.