『清华信息大讲堂』第88讲

报告题目 ：High-frequency Characteristics of 1-D Nanostructures

报 告 人 ：Prof. Cary Y. Yang
IEEE Fellow
Founding Director of Center for Nanostructures
Santa Clara University

报告时间 ：7月9日 上午10:00

报告地点 ：微电子所新所B311室

摘要：

A method to extract compact circuit models for one-dimensional nanostructures from measured high-frequency characteristicsis described. We demonstrate that a frequency-independent parallel RC circuit is the simplest model that accurately describeshigh-frequencyelectrical conduction in carbon nanofibers. The resistance is determined from dc measurement and the capacitance is extracted directly from measured S-parameters for a ground-signal-groundtest structure, without using any fitting parameter. The results obtained from the circuit modelfor carbon nanofibers are within ± 0.5 dB and ± 5° of measured S-parameters up to 50 GHz. The model is further justified by examining the relationship between S and Y-parameters of the test network.

简介：

Cary Y. Yang received the B.S., M.S., and Ph.D. degrees in electrical engineering from the University of Pennsylvania. He spent a year at M.I.T. as a postdoctoral fellow working on electronic properties of chemisorbed molecules on heavy transition metal surfaces. He continued his research on surface and interface science at NASA Ames Research Center and Stanford, before founding Surface Analytic Research, a Silicon Valley company focusing on sponsored research projects covering various applications of surfaces and nanostructures. He joined Santa Clara University in 1983 and is currently Professor of Electrical Engineering and Founding Director of TENT Laboratory. At Santa Clara, he served as Chair of Electrical Engineering, Associate Dean, and Founding Director of Center for Nanostructures. His research spans from silicon-based nanoelectronics to nanostructure interfaces in electronic, biological, energy-storage systems. He is a Fellow of IEEE, former editor of IEEE Transactions on Electron Devices, past president of IEEE Electron Devices Society, and past elected member of the IEEE Board of Directors. In 2001, on behalf of the People to People Ambassadors Program, he led an Electron Devices Delegation to visit universities, government institutes, and companies in the People’s Republic of China. He was the recipient of the 2004 IEEE Educational Activities Board Meritorious Achievement Award in Continuing Education "for extensive and innovative contributions to the continuing education of working professionals in the field of micro/nanoelectronics." In 2005, he received the IEEE Electron Devices Society Distinguished Service Award. He currently holds the Bao Yugang Chair Professorship at Zhejiang University.

主办单位 ： 信息科学技术学院

联系人 ： 任天令（62798569）