High Frequency Electromagnetic Techniques:

A New Tool for Electronic Packaging

New demands are placed on electronic devices constantly. Smaller, higher density, and lower power consumption are all required of the newer electronics. This has required a more detailed examination of surface physics fundamentals and how materials behave at lower dimensionality. Now, even electronic parts packaging could not be taken for granted, in fact it is gaining a great deal of attention. The need for new tools is equally important to the development of the new products. An understanding of how materials interact with electromagnetic waves has allowed us to develop tools that could be useful in electronic component packaging as in thin substrate bonding. Using low intensity electromagnetic waves we are working to reduce built up stresses in ultra-thin electronic components to enhance their reliability.

Biography

Dr. Budraa studied the thermal properties of fullerenes & carbon nanotubes at low-temperature for his thesis work. As a Post Doctorate Fellow at the California Institute of Technology at JPL, he worked on carbon nanotube synthesis using high-frequency electromagnetic radiation. Some of the expected applications will include electronics interconnect at nano-meter scale. During the tool development period for the carbon nanotube synthesis, these applications were developed.