

Photo-Thermoelectric Effects in Carbon Nanostructure  
Devices

François Léonard  
Sandia National Laboratories  
Livermore, CA, USA

Because of their unique electronic, optical, and mechanical properties, carbon nanostructures show promise for photovoltaic applications. To fully harness this potential it is important to understand the fundamental energy conversion processes that govern the optoelectronic performance of carbon-based devices. In this talk, I will present experimental work that shows the importance of the photo-thermoelectric effect in different carbon nanostructure devices. A theoretical foundation to understand these effects and its usefulness in understanding a broad range of phenomena will also be discussed.