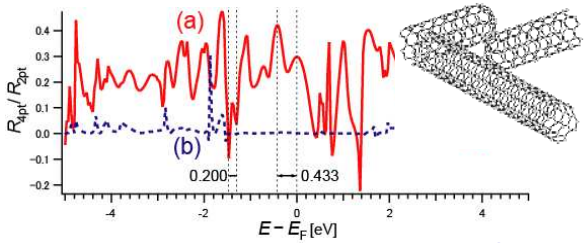
Simulation on Nanoscale Electric Transport and Related Phenomena

Program Member: Watanabe (Dept. Mater. Eng.), Affiliated Members: T. Tada, T. Yamamoto

Nanoscale electric transport and its related phenomena, which are important in novel mechanical systems in extended nano space, are examined using simulations.

4-point resistance of carbon nanotube (CNT)

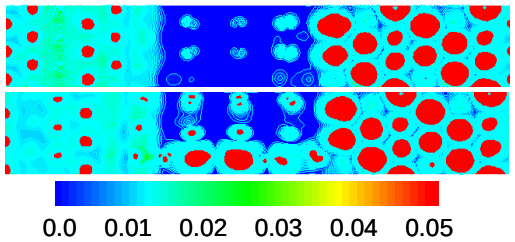


A. Terasawa et al.,Phys. Rev. B 79, 195436 (2009).

T. Tada

T. Yamamoto

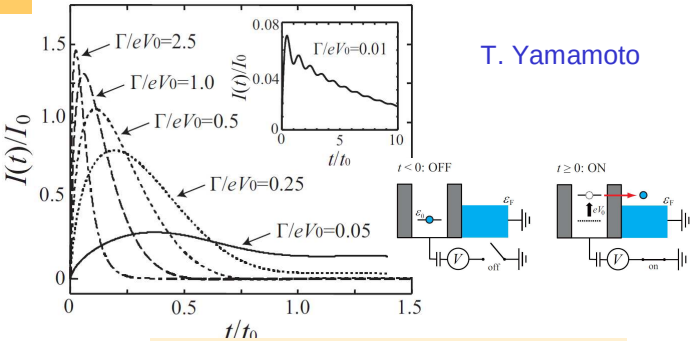
Electronic density of states in Cu-Ta_2O_5-Pt atomic switch



T.K. Gu et al., ACS Nano, in press. (DOI: 10.1021/nn101410s)

T. Tada

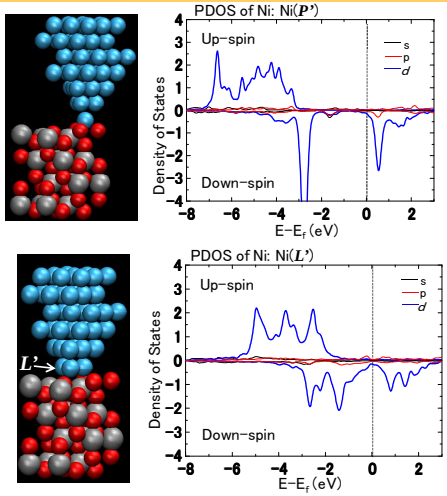
Transient current in a quantum dot



T. Yamamoto

K. Sasaoka, et al., Appl. Phys. Lett. **96**, 102105 (2010).

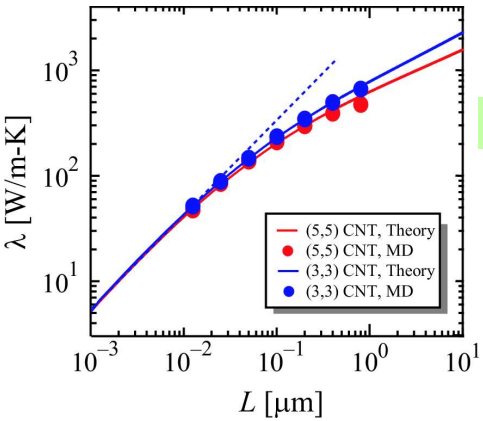
Density of states of Ni at a Ni-zirconia interface



T. Tada

T. Tada and S. Watanabe, J. Phys. Chem. C 113, 17780 (2009)

Thermal property of CNT



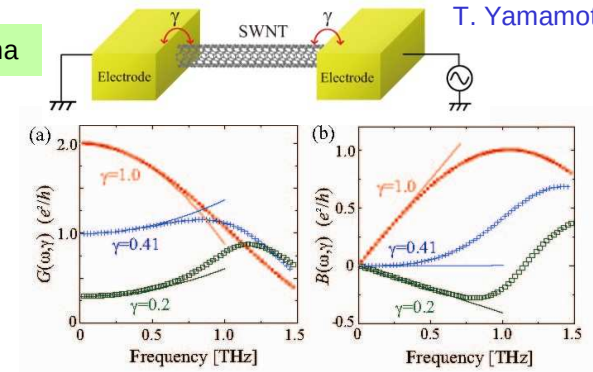
T. Yamamoto

S. Maruayma

J. Shiomi

T. Yamamoto et al., Appl. Phys. Express **2,** 095003 (2009).

AC response of CNT



T. Yamamoto

T. Yamamoto et al., Phys. Rev. B, in press.