

# High Resolution Photonic Force Microscope Using Resonance Energy Transfer

Seungjin Heo, Kipom Kim and Yong-Hoon Cho

Department of Physics and Graduate School of Nanoscience & Technology (WCU), Korea Advanced Institute of Science and Technology (KAIST), Daejeon 305-701, KOREA

Photonic Force Microscope (PFM) is a scanning force microscope using an optical trap with several piconewton. In PFM, we can have topological information from the bead position trapped in optical trap. Typically the resolutions of lateral and vertical position are 40 nm and 50 nm respectively. To improve the vertical resolution below 10 nm, we use resonance energy transfer which has 5nm resolution in distance. Here we show preliminary results, including performances of scanning bead and fluorescence imaging system.