QPEC—G-COE Seminar

量子相エレクトロニクス研究センター

G-COE プログラム—未来を拓く物理科学結集教育研究拠点—

“Scotch Tape and Spectroscopy: Probing and Manipulating the surface of a Topological Insulator “

Prof. Ken Burch

(Department of Physics and Institute for Optical Sciences

University of Toronto)

日時：２０１２年８月１０日（金）　１１：００～１２：００

場所：工学部６号館大会議室（１０３号室）

ABSTRACT

Recently there has been a great deal of interest in studying the surfaces of materials with topologically non-trivial electronic states. In addition to probing the surfaces of topological insulators it is highly desirable to put them in proximity with other materials (ferromagnets and superconductors) to induce new particles such as Majoranna Fermions.

I will discuss our groups efforts to study these materials using mechanical exfoliation and a variety of spectroscopic techniques (Raman, IR and tunneling). In addition I will detail a new method we have devised that enables us to produce high temperature superconductivity in a topological insulator via the proximity effect.

（紹介教員：岩佐義宏教授）