Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

The magnetic flux periodicity in SNS square ring. HONG-YI CHEN, National Taiwan Normal University, CHUNG-PIN CHOU, Academia Sinica, Taiwan — In this work, we study the magnetic flux periodicity of d-wave superconductor-normal-superconductor square ring. The Hamiltonian of the SNS square ring is solved by using self-consistent Bogoliubov-de Gennes equations. The total current as a function of flux exhibits the hc/e period. As we increase the length of the normal metal, the hc/e period becomes hc/2e period. Furthermore, we also investigate the behavior of the supercurrent in SNS and SIS junctions and the phase variation of the Josephson current.

Hong-Yi Chen
National Taiwan Normal University

Date submitted: 12 Dec 2011 Electronic form version 1.4