Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Evidence for coexistence of Rashba and Dresselhaus effect on semiconductor WONSIG JUNG, S.H. JO, B.Y. KIM, Institute of Physics and Applied Physics, Yonsei University, Seoul, Korea, M. LEANDERSSON, B. THIAGARAJAN, MAX-lab, Lund University, Lund, Sweden, J.S. HONG, J.H. SHIM, Department of Chemistry, Pohang University of Science and Technology, Pohang 790-784, Korea, CHANGYOUNG KIM, Institute of Physics and Applied Physics, Yonsei University, Seoul, Korea — We have performed preliminary circular dichroism angle-resolved photoemission spectroscopy (ARPES) experiments on InSb. Our results show very strong circular dichroism (CD) signal, indicating probable existence of orbital angular momentum (OAM). Non-zero OAM in zincblend semiconductor can appear when there is an inversion symmetry breaking (IBS) in the bulk and on the surface. We find that the dichroism has momentum and band dependence. The CD modulations can be the evidence for coexistence of Rashba and Dresselhaus effect on semiconductor.

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Date submitted: 15 Nov 2013 Electronic form version 1.4