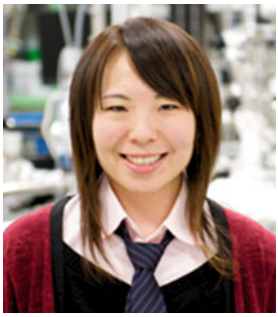
Curriculum Vitae



Akari Takayama
Address (Former affiliation)
2-1-1 Katahira, Aoba-ku, Sendai, Miyagi
980-8577, Japan
Tel.: +81-22-217-6169
Fax: +81-22-217-6157
e-mail: a.takayama@arpes.phys.tohoku.ac.jp

Education

Tohoku University
Degree: M.S. 2008, Ph.D. March 2013
Thesis advisor: Takashi Takahashi
Thesis topic: Construction of high-resolution spin-resolved photoemission spectrometer and the study of Rashba effect in bismuth thin film

Fukushima University
Degree: March 2004, B.A. in Education

Major Honors and Awards

Ikushi prize, Japan Society for the Promotion of Science, March 4 (2013)
President's Award, Tohoku University, March 27 (2013)
L'Oréal–UNESCO award of Japan for women in science, September 11 (2013)

A. Takayama, *High-Resolution Spin-Resolved Photoemission Spectrometer and the Rashba Effect in Bismuth Thin Films*, Springer Theses,
DOI 10.1007/978-4-431-55028-0

Relevant Employment History

Japan Society for the Promotion Science (JSPS) Research Fellowship for young scientists, 2010–2012

Research Interests

I am interested in novel phenomena occurring in two-dimensional states like surface and thin film. Recently, it has been reported in such systems that anomalous spin structure like the Rashba effect exists due to the strong spin-orbit coupling. I have been very much interested in these phenomena. When one intend to understand the spin structure in the Rashba system, it is indispensable to determine three quantum parameters of electron, i.e. energy, momentum, and spin. Spin- and angle-resolved photoemission spectroscopy is a powerful technique to observe all of these parameters, while this method involves an inherent difficulty in achieving a high-energy resolution. During my Ph.D. course, I have solved this problem with lots of trials and errors, and developed high-performance spectrometer. Moreover, I studied the Rashba spin-split surface states of Bi thin film by using this spin-resolved photoemission spectrometer, and have found anomalous behavior of the spin structure in the surface states.

Publication List

[1] "Anomalous Rashba effect of Bi(111) thin film studied by high-resolution spin-resolved ARPES" A. Takayama, T. Sato, S. Souma, T. Takahashi, J. Vac. Sci. Tech. B **30**, 04E107 (2012)

[2] "Development of high-resolution spin-resolved photoemission spectrometer and its application for study of surface Rashba effects" (in Japanese) A. Takayama, S. Souma, T. Takahashi, J. Surf. Sci. Soc. Jpn. **33**, 165 (2012)

[3] "Spin Polarization of Gapped Dirac Surface States Near the Topological Phase Transition in $TlBi(S_{1-x}Se_x)_2$" S. Souma, M. Komatsu, M. Nomura, T. Sato, A. Takayama, T. Takahashi, K. Eto, K. Segawa, Y. Ando, Phys. Rev. Lett. **109**, 186804 (2012)

[4] "Direct Measurement of the Out-of-Plane Spin Texture in the Dirac Cone Surface State of a Topological Insulator" S. Souma, K. Kosaka, T. Sato, M. Komatsu, A. Takayama, T. Takahashi, M. Kriener, K. Segawa, Y. Ando, Phys. Rev. Lett. **106**, 216803 (2011)

[5] “Evolution of surface states in $Bi_{1-x}Sb_x$ alloys across the topological phase transition” H. Guo, K. Sugawara, A. Takayama, S. Souma, T. Sato, N. Satoh, A. Ohnishi, M. Kitaura, M. Sasaki, Q.-K. Xue, T. Takahashi, Phys. Rev. B **83**, 201104(R) (2011)

[6] “Magnetic Phase Transition of CeSb Studied by Low-Energy Angle-Resolved Photoemission Spectroscopy” A. Takayama, S. Souma, T. Sato, T. Arakane, T. Takahashi, J. Phys. Soc. Jpn. **78**, 073702 (2009)

[7] “Observation of Fermi-surface-dependent nodeless superconducting gaps in $Ba_{0.6}K_{0.4}Fe_2As_2$” H. Ding, P. Richard, K. Nakayama, K. Sugawara, T. Arakane, Y. Sekiba, A. Takayama, S. Souma, T. Sato, T. Takahashi, Z. Wang, X. Dai, Z. Fang, G. F. Chen, J. L. Luo N. L. Wang, Europhysics Letters **83**, 47001 (2008)