FLEET
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MONASH University

FLEET RESEARCH SEMINAR

Soft x-ray spectroscopy of magnetic materials for spintronics

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Abstract: In order to reveal the origins of ferromagnetism and its anisotropy in materials considered for spintronics applications, spectroscopic methods using soft x-rays such as angle-resolved photo-emission spectroscopy (ARPES) and x-ray magnetic circular dichroism (XMCD) combined with first-principles calculations have given crucial microscopic information. In this talk, recent results are presented for diluted ferromagnetic semiconductors (Mn- and Fe-doped compounds [1]), heavy element-3d ordered alloy showing strong perpendicular magnetic anisotropy [2], and van der Waals ferromagnets.

[1] S. Sakamoto, A. Fujimori et al., Phys. Rev. B 93, 035203 (2016); 95, 075203 (2017).

[2] K. Ikeda, A. Fujimori et al., Appl. Phys. Lett. , Appl. Phys. Lett. 111, 142402 (2017).

About the Speaker: ***Professor Atsushi Fujimori is a professor at the Department of Physics, the University of Tokyo. He received his B.S. (1976), M.S. (1978), and D.Sc. degrees (1981) from the University of Tokyo. He was a research scientist at National Institute for Research in Inorganic Materials, Tsukuba, Japan, between 1978-1988, and a visiting assistant professor at the University of Minnesota, USA, between 1984-1985. He was appointed an associate professor at the University of Tokyo in 1988 and a professor in 1999. He has been studying the electronic structure of correlated electron systems, including transition-metal compounds, high-temperature superconductors, and spintronics materials by photo-emission and absorption spectroscopies using synchrotron light. Prof. Fujimori has published over 600 papers with over 34,000 citations. His h-index of 88 places him among the top 1% mostly cited physicists worldwide.***

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