



Seminar

Spin Transport in Spintronics

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Time: 4:00pm, March. 30, 2017 (Thursday)

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Venue: Room w563, Physics building, Peking University

地点: 北京大学物理楼, 西563会议室

Abstract

We study spin current generation and manipulation, and spin Hall effects in a variety of materials and hybrid systems[1]. We present the linear response theory of the spin current generation [2] and apply the theory to a variety of systems. Particular emphasis is placed on i) spin transport in half-metallic ferromagnets[3], ii) spin Seebeck effect in ferrimagnets[4], and iii) effect of spin fluctuations on spin pumping[5].

[1] The second edition of "*Spin Current*", eds., S. Maekawa et al. (Oxford Univ. Press, 2017).

[2] H. Adachi, K. Uchida, E. Saitoh and S. Maekawa, *Rep. Prog. Phys.*, **76**, 036501 (2013).

[3] Y. Ohnuma, M. Matsuo and S. Maekawa, *Phys. Rev.* **B94**, 155202 (2016).

[4] S. Geprgs, et al., *Nature Commun.* **7**, 10452 (2016).

[5] Y. Ohnuma, H. Adachi, E. Saitoh and S. Maekawa, *Phys. Rev.* **B89**, 174417 (2014).

About the speaker

Prof. Sadamichi Maekawa has been a director in Advanced Science Research Center, Japan Atomic Energy Agency and an emeritus professor in Tohoku University since 2010. He was a post doctoral fellow in 1975 and 1976 in IBM Watson Research Center, New York. From 1988 to 1997, he was a professor in Department of Applied Physics, Nagoya University, and then joined in the Institute for Materials Research, Tohoku University as a professor from 1997 to 2010. He was a deputy director in Institute for Materials Research, Tohoku University from 2006 to 2008. Since 2008, he has been an associate member of the Science Council of Japan. His research experience includes a Visiting Scientist (Summer Faculty Member) in IBM Watson Research Center, a Visiting Scientist in Institute für Festkörperforschung, Jülich, a Guest Distinguished Professor in Max Planck Institute at Halle, a Guest Scientist in the Institute of Physical and Chemical Research, and a Guest Distinguished Professor in Pohang University of Science and Technology, Korea. His main research focuses on solid state theory which includes theory of electronic properties in strongly correlated electron systems and theory of transport in magnetic nanostructures.