

第 96 回ナノ・スピン工学研究会  
第 20 回 CSIS セミナー  
スピントロニクス研究室講演会の開催について

日 時 : 平成 29 年 12 月 7 日 (木) 16:00-17:30

場 所 : 電気通信研究所 ナノ・スピン総合研究棟 4 階 401 号室

講 師 : **Professor Thibaut Devolder**  
(Univ. Paris-Sud, France)

講演題目 : **An experimentalist view of the Gilbert damping in FeCoB/MgO systems**

概 要 : CoFeB/MgO based magnetic tunnel junctions are of central importance for the memory applications of spin electronics. The Gilbert damping is the rate at which the energy leaks from the magnetic dynamic degrees of freedom to the thermal bath and is an important material parameter in magnetic memory technologies as it determines how energy efficient is the storage. In this seminar, I will describe the phenomenology of Gilbert damping in magnetic metals and in FeCoB systems in particular. I will discuss the influence of the deposition conditions, of the boron content, of the encapsulation material and of heavy metal contaminants onto the Gilbert damping in memory-relevant free layer stacks. Finally, I will show how to measure electrically the spin-wave density of states in small devices and how to treat the data to determine the damping at device level and get information on its potential spatial variations. Acknowledgment: most of the work was done in collaboration with IMEC Belgium.

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