



SEMINAIRE ISMO

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Device Applications of Graphene

In this seminar, I will present the research on graphene by big companies such as Samsung, IBM and Thalès. Among various applications of graphene, graphene electronics/spintronics or logic transistor applications are considered to have the biggest impact on industry.

In detail, I will show Samsung's achievement of a logic application of graphene. We recently reported a new class of three-terminal active device, a graphene variable-barrier "barristor" (GB), in which the key is an atomically sharp interface between graphene and hydrogenated silicon. Then, I will introduce the important properties of graphene for spintronics. In Thales, we are investigating the spin injection into graphene by 'state of the art' technologies developed for conventional spintronics.

Finally, I will discuss the strong and weak points in device applications of graphene for future technology.

(1) Science, **336**, 1140 (2012), Heejun Yang et al. 'Graphene barristor, a triode device with a gate-controlled Schottky Barrier'

(2) Nature Physics **8**, 557 (2012) Bruno Dlubak et al. 'Highly efficient spin transport in epitaxial graphene on SiC'

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Mardi 20 novembre 2012 à 11 h 00

Bât. 351 - 2^{ème} étage (Bibliothèque)

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