INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Tento projekt je spolufinancován Evropským sociálním fondem a státním rozpočtem České republiky.

Pozvánka na veřejnou přednášku

Ústav fyziky Fakulty elektrotechniky a komunikačních technologií VUT v Brně si Vás v rámci projektu Operačního programu Vzdělávání pro konkurenceschopnost dovoluje pozvat na přednášku

Random Telegraph Signal Revisited

Přednášející

Prof. Jan Chroboczek , IMEP/MINATEC, Grenoble, France

Datum

12.12. 2010 – 10:00 – 12:00

Místo

Ústav fyziky
Fakulta elektrotechniky a komunikačních technologií
VUT v Brně, Technická 8, 616 00, Brno
přednášková místnost **T-215**

Abstrakt

Random Telegraph Signal (RTS) effect was discovered in mid-1980s in Si MOSFETs and attracted much attention as it was readily recognized that it provides a direct method for defect studies by a relatively simple technique of current fluctuations measurements either in time or frequency domains. A short review of the fundamentals on RTS will be first presented, with a discussion of several unsolved or controversial issues. Noise studies and RTS gain now in importance because of the progressing device miniaturization and appearance of novel classes of devices, such as nano-structures or of the novel materials, such as organic semiconductors. In these domains the fabrication processes are still in the development stage and device properties often fall short of expectations because of high defect densities, small mobilities etc. This also results in high noise and often in the appearance of RTS-like fluctuations recorded in small devices of various structures and compositions. RTS studies are now carried out on practically all novel devices. In this presentation RTS in memory devices, organic or nanowire transistors will be discussed and shown that in spite of the variety of novel devices many features of the observed RTS can find parallels in classical Si MOSFETs providing guidance for understanding the functioning of novel devices and improving their performance.

Kontakt

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