Séminaires du LAAS-CNRS

Laboratoire d'Analyse et d'Architecture des Systèmes du CNRS

SEMICONDUCTOR QUANTUM NANOSTRUCTURES FOR NANOELECTRONIC AND NANOPHOTONIC APPLICATIONS

par

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LAAS-CNRS - Salle Europe

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Pôle MINAS

résumé de l'exposé

The presentation is made up of two parts:

First, France and Thailand collaboration since 1975 in semiconductor technology is reviewed. In particular, it is recalled that SDRL has been established with technical assistance from LAAS.

The second part concerns recent research activities on semiconductor nanostructures using Molecular Beam Epitaxy. Self assembled quantum dots, quantum dot molecules, quantum rings, quantum dot chains are studied for nanoelectronics and nanophotonics. Multi-stack high density quantum dot molecules are demonstrated as the active part of photovoltaic cells.

l'orateur

Somsak Panyakeow received the B. Eng., M. Eng. and D. Eng. degrees, all in electrical engineering from Osaka University, Japan in 1969, 1971 and 1974 respectively. In 1974, he began to work as a lecturer at the Electrical Engineering Department, Faculty of Engineering, Chulalongkorn University.

He was a pioneer to set up the Semiconductor Device Research Laboratory (SDRL) at Chulalongkorn University in 1975. He was an Assistant Professor and an Associate Professor in 1977 and 1980 respectively. He was appointed to be a Full Professor of the department in 1982. He has been engaged in research on photovoltaic devices and systems since 1975. His long research experience on laser engineering since 1970 is another significant contribution. His recent research work is in the area of Molecular Beam Epitaxy for quantum devices and nanoelectronics.