



# Séminaire

Mardi 21 novembre 2017

11 h

C2N, Site Marcoussis Salle R. Planel

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## “STMBE studies: in-situ STM observation for understanding MBE growth mechanism “

High density arrays of Quantum dots (QDs) can easily be grown by 'self-assembled' methods. However, the precise mechanism of 'self-assembled' is not understood, which hampers control over QD size, density and distribution for particular applications. Therefore, in-situ evaluation technique for observing the growth process is necessary and indispensable. STM is good technique to observe the surface in atomic level but it dislikes vibrations and material depositions. So, usually its observation is after transporting the sample from MBE growth chamber to the STM though a gate valve, resulting that the temperature of the sample is returned to room temperature. Since the real *in situ* observation cannot be done with this ordinary method, we develop "STMBE" system in which the STM is placed completely inside MBE growth chamber, and with this system, the surface structure is analyzed centering on the *in situ* STM observation of the InAs QD self-assemble process on GaAs(001).

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