

Prof. Nadjib SEMMAR:

***Laser nano-structuring of thin metallic films :
characterisation by time-resolved reflectometry***

Nano-structuration of thin film surface using pico and nanosecond laser beam is a big challenge for future microelectronics applications (MEMS/NEMS) but also for surface properties control. Two kind of thin films should be studied in two wavelength regime (266, 355 nm) Copper/substrate (glass and silicon) and Cobalt/substrate (glass/silicon). Two-temperature model is used to resolve the electro-hydrodynamic interaction at the surface (EM and melting phase) to achieve the best conditions for calculating the amplitude and period of nanostructures. Also time resolved reflectometry is employed to confirm the presence of the liquid phase (melting) even working at very low laser fluence (much lower than the ablation threshold).

Period: 3 months minimum from March to August

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