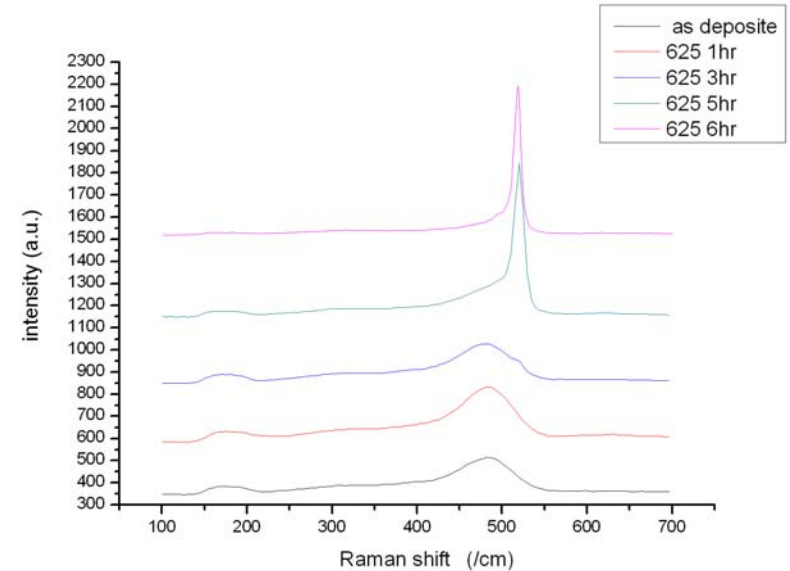
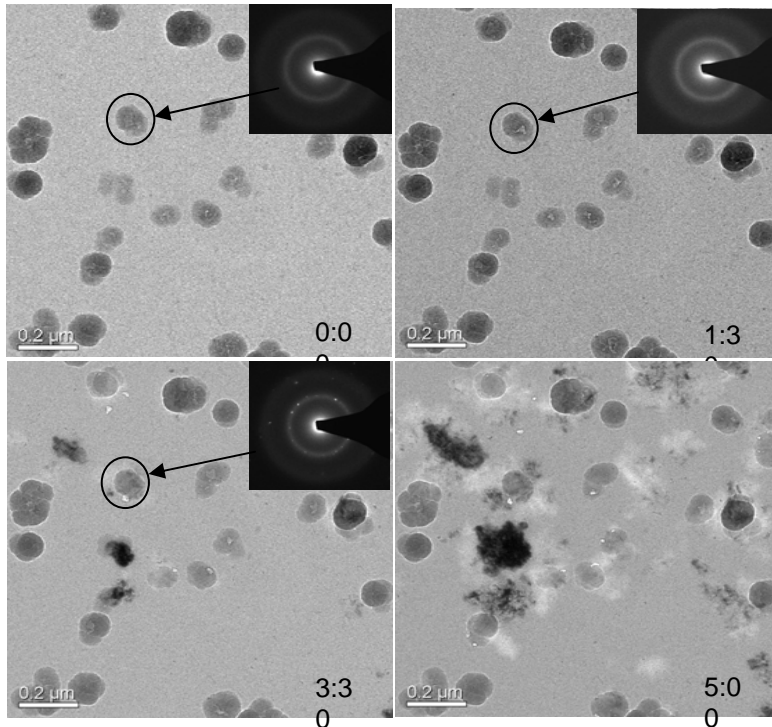


Crystallization Enhancement of Amorphous Silicon Films with Embedded Silicon Nanoparticles

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NNIN Facility utilized: Characterization Facility



Time series of confocal Raman spectra a-Si:H film embedded with spherical nc-Si.

Time series of heating stage TEM images for a-Si:H film embedded with amorphous Si particles annealed at 650°C:

The voids with fully amorphous surface do not propagate through the film until the “tail” region crystallizes. The motion of the voids is explained by the diffusion of Si atoms at their inner surface from the amorphous “front” side to the crystalline “tail” side.