SYNTHESIS AND CHARACTERIZATION OF NANOCOMPOSITES COATING BASED ON INORGANIC OCTAHEDRAL CLUSTER UNITS FABRICATED BY ELECTROPHORETIC DEPOSITION PROCESS.

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Composite nanoarchitectures represent a new class of nanostructured entities that integrate various dissimilar nanoscale building blocks including clusters, particles, wires and films [1]. The heterogeneous composite nanostructured materials are composed by definition of multi-(nano)components, each tailored to address different requirements. As one of the nanocomponents, nanometer sized transition metal clusters (<2 nm), which consist of less than a few dozens of metal atoms, could be defined as a link between atom and nanoparticle [2-7]. In this presentation, the first preparation of functional thin films based on octahedral molybdenum metal clusters deposited on ITO glass substrate by EPD will be discussed in detail [8]. More generally, we will focus on our recent results on thin films for optical and energy applications [9-10].

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