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**Formation of Patterned Colloidal Nanoparticle Superlattices in a Two Solvent System** CHENGUANG LU, AUSTIN AKEY, IRVING HERMAN, Columbia University — A two solvent system consisting of a high boiling point solvent and a low boiling point solvent was found to greatly aid the self-assembly ofapproximatel -layer thicknanoparticle superlattices. Nanoparticle mixtures were prepared under multiple solvent evaporation conditions in a system of capillary channels patterned on Si substrates. The resulting films were to be highly ordered, and analyzed by SEM Grazing Incidence Small Angle X-ray Scattering(GISAXS).. capillary effect, introduced by patterned susbtrate the evaporation rateof solvents the channels are believed to be the driving factor the self-assemblyof the superlattices. Three-dimensional icrometer-scale superlattices of CdSe and $Fe_2O_3$ nanoparticles were fabricated this technique.

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