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**Nanostructures under extreme non equilibrium plasma conditions of dense plasma focus device** MAHESH SRIVASTAVA, University of Delhi, KOSTYA OSTRIKOV, CSIRO, PLASMA NANOSCIENCE TEAM — In this poster, we will present the formation of nanostructures due to highly energetic, high fluence ions of different material produced due to high density, high temperature (1-2 KeV), extremely non-equilibrium pulsed plasma produced in a Dense Plasma Focus (DPF) device. Glow discharge and the magnetron sputtering discharge has weakly ionized, low temperature and low density plasma which produces ions in the discharge for the formation of nanostructures. In the present case we are using a 3.3 KJ Mather type DPF device which is powered by 30 microfarad 15 KV fast discharging energy storage capacitor. The material whose nanostructures is to be formed is fitted on the top of the anode in the form of a disc. The hot and dense argon plasma formed during discharge causes the ionization of the material. The material ions along with argon ions move upwards in a fountain like structures and the nanostructures are formed on different substrates which are mounted on the substrate holder and is inserted from the top of the plasma chamber. Kinetic Monte Carlo simulation is being used to explain the formation of such nanostructures.

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