TOF-MS STUDIES TO PRODUCE QUALITY NANOSTRUCTURES USING LASER ABLATION METHOD

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In this conference, we will present a detail report on the time of flight mass spectrometry (TOF-MS) of boron nitride, amorphous carbon, and graphite and fullerene-60 ions to produce quality nanostructures. Each target placed independently in the deposition chamber to produce respective ions by the ablation method using short laser pulses. In each case of the ablated ions, it is found that the TOF spectrum shifts with energy density of the laser radiations and the distance between the target surface to the working area. We further analyzed average velocity and energy of the ions within the beam mass center of the ablated plume. Assignment of the TOF-MS lines is also carried out according to the mass of the ions. This study helped us to optimize and precisely determine the experimental parameters in order to synthesize good quality nanostructures using the pulsed laser ablation method.

Keywords: Boron Nitride, Carbon Material, Nanostructure

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