【M-05 : 분과초청】

PARTICULARITIES OF FILM COMPOSITION AND STRUCTURE FORMATION DURING PULSED LASER DEPOSITION

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Three components of the deposition process that completely determine the composition, structure and properties of the resulting film are: the composition of film-forming species, properties of the medium where film-forming species propagate, and conditions on the condensation surface. These constituents of Pulsed Laser Deposition process significantly differ from those for other PVD methods. The film-forming species arising during the evaporation of the substance by laser pulse are quite nonuniform and include ions, molecules, clusters and larger species. The kinetic energy of species bombarding the growth surface is distributed in a wide range. So it is natural to expect the properties of films fabricated by PLD to be different from those obtained by the other PVD methods.

The aim of our report is to discuss the mechanisms of formation of composition and structure of PLD films in the light of the above concept. Role of named three factors in formation of PLD films during laser evaporation of metals and compounds with different physics-chemical properties will be considered.