STUDY OF THERMAL STABILITY OF DLC FILMS

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Abstract

The goal of this work was to study thermal stability of diamond-like carbon films. Three different films were prepared using PECVD method. Films were placed in the vacuum chamber and underwent controlled annealing inside of an electric laboratory furnace. Thanks to the high vacuum inside of the apparatus we could use quadrupole mass spectrometer to detect instantaneous evolution of desorbed particles from the film. We also compared the thickness of films before and after annealing. Some samples were also measured by RBS method. Results of the experiment show the way how thermal stability depends on particular deposition conditions.

Keywords: thermal desorption spectroscopy, TDS, DLC

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