

Metal Plasma Source Ion Implantation Using a Pulsed Cathodic Arc

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Abstract

For conformal ion implantation into 3 dimensional materials by plasma source ion implantation (PSII), the production of uniform, large-volume plasma is required and the ion-sheath evolution must be controlled. In this article, first plasma source ion implantation of metal ions with synchronization of pulsed cathodic arc and target bias pulses that newly developed in our laboratory for surface modification of materials such as metals, plastics and ceramics will be introduced. Second, the technology for removal of macroparticles and the some of results will also be discussed.