

ON THE POLYMER PLASMA LASER ABLATION

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Rezumat. *Plasma polimerică determinată prin procedura de ablație cu laser a fost examinată experimental. Dinamica penei de plasmă a fost ilustrată cu succes în articol. Rezultatele investigației sunt în excelent acord cu cele cunoscute din lucrările publicate în domeniu.*

Abstract. *The polymeric plasma determined by the laser ablation procedure was experimentally examined. The dynamics of the plasma plume have been successfully illustrated in paper. The results of the investigation are in excellent agreement with those known from the works published in the field.*

Keywords: polymer; plasma; laser ablation; plasma plume

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1. Introduction

In physics, plasma is a well-defined state of matter aggregation, consisting of ions, electrons, and neutral particles (atoms or molecules), considered generically neutral. In the sense of the first definition, plasma can be considered as a total or partially ionized gas, but on the whole neutral from an electrical point of view. However, it is seen as a distinct state of aggregation, more precisely the fourth state, having specific properties in this respect [1]. The plasma temperature obtained in the laboratory may take different values for each type of constituent particle. In addition, the spontaneous ignition of plasma depends on many parameters (concentration, external electric field, etc.), being impossible to establish a temperature at which the passage of matter takes place, from gaseous state to plasma itself.

In the established definition, laser ablation or photoablation (as it is also called) is a physical process of removing material from a solid (or occasionally liquid) aggregation states surface by irradiating it with a laser beam power, considered to be the decisive factor in the penetration of material.

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