

Accepted Manuscript

Title: Laser-Assisted Replication of Large-Area Nanostructures

Author: Keisuke Nagato Ken Takahashi Toshimi Sato Junho Choi Tetsuya Hamaguchi Masayuki Nakao



PII: S0924-0136(14)00200-3
DOI: <http://dx.doi.org/doi:10.1016/j.jmatprotec.2014.05.025>
Reference: PROTEC 14012

To appear in: *Journal of Materials Processing Technology*

Received date: 2-2-2014
Revised date: 28-4-2014
Accepted date: 24-5-2014

Please cite this article as: Nagato, K., Takahashi, K., Sato, T., Choi, J., Hamaguchi, T., Nakao, M., Laser-Assisted Replication of Large-Area Nanostructures, *Journal of Materials Processing Technology* (2014), <http://dx.doi.org/10.1016/j.jmatprotec.2014.05.025>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Laser-Assisted Replication of Large-Area Nanostructures

Keisuke Nagato,^{1,2)*} Ken Takahashi,¹ Toshimi Sato,¹ Junho Choi,¹ Tetsuya
Hamaguchi,¹ Masayuki Nakao¹

¹ Department of Mechanical Engineering, Graduate School of Engineering,
The University of Tokyo,
7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan

² Research Fellow of Precursory Research for Embryonic Science and Technology
(PRESTO), Japan Science and Technology Agency (JST)

*e-mail: nagato@hnl.t.u-tokyo.ac.jp

Abstract

We proposed and demonstrated a high-throughput fabrication method for large-area nanostructured polymers. The mold used consists of a quartz substrate and a nanostructured diamond-like carbon (DLC) thin film. A laser is irradiated from the back of the mold and only the DLC surface is directly heated. Then the surface of a polymethyl methacrylate (PMMA) film pressed by the mold is melted and the

Download English Version:

<https://daneshyari.com/en/article/10417377>

Download Persian Version:

<https://daneshyari.com/article/10417377>

[Daneshyari.com](https://daneshyari.com)