Properties of Nanostructured Layers Formed on Silicon

Stanislav Jurečka[1, a)], Taketoshi Matsumoto[2], Kentaro Imamura[2], Hikaru Kobayashi[2]

[1]*Institute of Aurel Stodola, University of Žilina, Liptovský Mikuláš, Slovak Republic*
[2] *The Institute of Scientific and Industrial Research, Osaka University, CREST, Japan Science and Technology Agency, Ibaraki, Osaka 567-0047, Japan*

[a)]Corresponding author: jurecka@lm.uniza.sk

Abstract. Thin nanostructured layers were formed on silicon substrate by the SSCT method. The microstructure of formed layers was experimentally examined by the TEM microscope. Morphological information from the TEM scans was analyzed by the multifractal methods. A set of theoretically generated structures with defined fractal properties was characterized by the multifractal methods and the results were used for the explanation of the real structure development during the forming procedure.