

MEASUREMENT EVALUATION OF PMMA LASER MICRO - MACHINING BY ANN

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Abstract: *This paper presents usage of artificial neural networks for modelling of laser micro-machining process. Results of the laser micro-machining – surface quality of product and his utility in specific application – depend on the laser-machine parameters and the polymer material type. Commercial CO2 laser Mercury L-30 by LaserPro, USA was used for cutting specimens. This laser system has two parameters - power and feed. The article also shows optimization of the laser micro-machining using artificial neural network. In order to interpret complicated dependencies between technological characteristics of laser micro-machining and output parameters software Matlab 6.5 with Neural Network Toolbox was used. The experimental results were evaluated and depicted into the graphs.*

Key words: *laser, micro-machining, surface quality, polymer material type, artificial neural network*



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