УНИВЕРЗИТЕТ У НОВОМ САДУ
ФАКУЛТЕТ ТЕХНИЧКИХ НАУКА
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ИНТЕГРИСАНИ СИСТЕМ МЕНАЏМЕНТА СЕРТИФИКОВАН ОД:

IEEE Celebrating 125 Years of Engineering the Future

115. Sastanak IEEE u Novom Sadu / 115th IEEE Meeting in Novi Sad

Obaveštenje / Announcement

Prof. Dr. Janez Mozina

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u **petak, 22. 06. 2012.** u Sali (Blok-F) F-319, Fakulteta tehničkih nauka u Novom Sadu, sa početkom u **11:00 h**, održati

On **Friday, June 22, 2012**, in Hall 319 (Block F), of the Faculty of Technical Sciences Novi Sad at **11:00 h** will deliver

P R E D A V A N J E
L E C T U R E

OPTODYNAMICS - A NEW INTERDISCIPLINARY RESEARCH FIELD

Abstract: The lecture will be devoted to the description of optodynamics as a new interdisciplinary research area dealing with mechanical aspects of the interaction between light and matter. In accordance with this definition a wide spectrum of phenomena can be treated associated with optodynamics:

- high intensity optoacoustics, laser-induced shock waves, laser ultrasonics, pulsed laser materials processing, pulsed laser medicine, laser propulsion, etc…

In view of optodynamics a laser beam is not only considered as a tool but also as a generator of information about the material processes. The information is retained and conveyed by different kinds of optically induced mechanical waves and in some cases also by macroscopic motion of the illuminated object. Several generation/detection schemes will be described how to extract this information to monitor some pulsed laser manufacturing processes. Attention will be also be given to one dimensional model, optical-to-mechanical energy conversion efficiency, linear momentum flow associated with laser ablation and to on-line observation of the workpiece deformation during laser processing using rapid 3D laser profilometry.

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