



УНИВЕРЗИТЕТ
У НОВОМ САДУ



ФАКУЛТЕТ
ТЕХНИЧКИХ НАУКА

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ИНТЕГРИСАНИ
СИСТЕМИ
МЕНАџМЕНТА
СЕРТИФИКОВАНИ О.Т.



164. Sastanak IEEE u Novom Sadu /164th IEEE Meeting
in Novi Sad
Obaveštenje / Announcement

Asst.Prof. Dr Miroslav Vasi
Universidad Politecnica de Madrid
Center for Industrial Electronics
Madrid, Spain



POLITÉCNICA

е у **ponedeljak, 02. 04. 2018.** у Sve anoj sali
Fakulteta tehni kih nauka u Novom Sadu, sa
po etkom u **11:00h**, odrzati

On **Monday, April 2, 2018**, in the Ceremonial Hall
of the Faculty of Technical Sciences Novi Sad at
11:00 am will deliver

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

GaN TRANSISTORS AS AN ENABLER OF HIGH PERFORMANCE POWER ELECTRONICS

Abstract: In the last years we have witnessed a dramatic change in the semiconductor technology as Gallium nitride (GaN) and Silicon carbide (SiC) devices have emerged as a possible replacement for silicon devices in various power conversion applications and as an enabler of new applications not previously possible. GaN and SiC are materials with higher and gap, electron velocity and critical electrical field than silicon and they are more suitable for higher voltages and higher frequencies. Nevertheless, with these new technologies questions regarding their price, reliability and their impact on other aspects of the system design arise. This lecture will try to provide some answers to these questions focusing on the basic physics of GaN transistors and low-voltage (<1000V) applications where the employment of GaN power switches brings increased energy efficiency and power density. Applications such as communication (envelope tracking), transportation (DC-DC power converters for satellites) and renewable energy will be addressed and discussed. Experimental results and tradeoffs in performance vs. cost will be critically assessed.

Katedra za energetska elektroniku i pretvara e, i



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