European Commission
TEMPUS

Tempus Project University of Kragujevac
WBCVMnet
WBC Virtual Manufacturing Network
Fostering an Integration of the Knowledge Triangle

WBCVMnet

University of Novi Sad
Faculty of Technical Sciences
Department of Electronics
Novi Sad, Serbia

Individual expert:
prof. Goran Stojanović

Kick-off meeting, Kragujevac, March 24-26, 2009

Members

Members of the Department of Electronics:

10 Professors,

14 research and teaching asistents

11 Ph.D. students

4 technical staff

The Head of the Laboratory for Electronic Materials Characterization:

prof. Goran Stojanović

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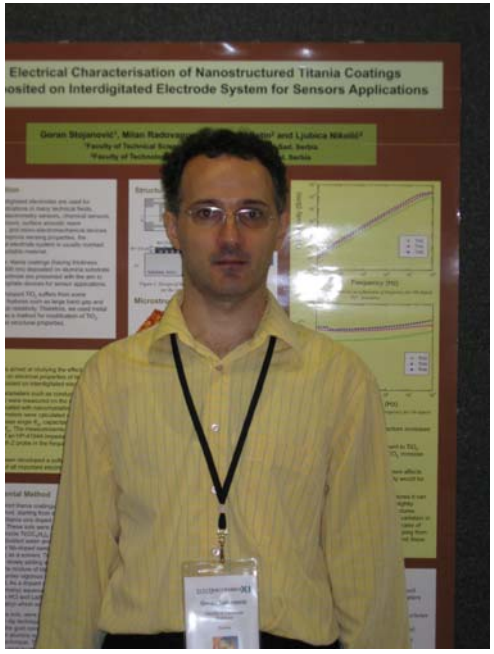
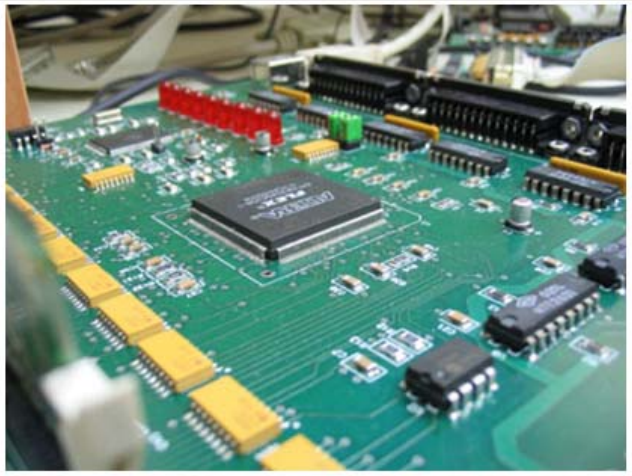


Cooperation with enterprises:

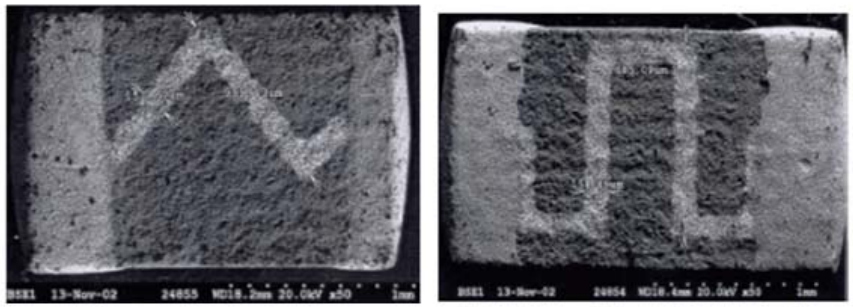
- *Littelfuse Ireland Limitted, Ireland*
- *Test Laboratories International Inc., USA*
- *ELSYS Design, Paris, France*
- *STMicroelectronics, Pavia, Italy*
- *Hotwell, Klingenbach, Austria*
- *Fotec, Wiener Neustadt, Austria*
- *HDL Design House, Belgrade, Serbia*
- *ICM Electronics, Novi Sad, Serbia*
- *IRITEL, Belgrade, Serbia*
- *NIS – Naftagas, Novi Sad, Serbia*
- *Panakva, Novi Sad, Serbia*

Collaboration results

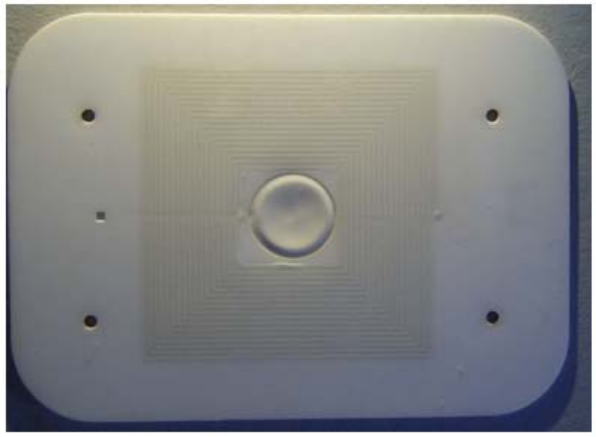
Developed products:



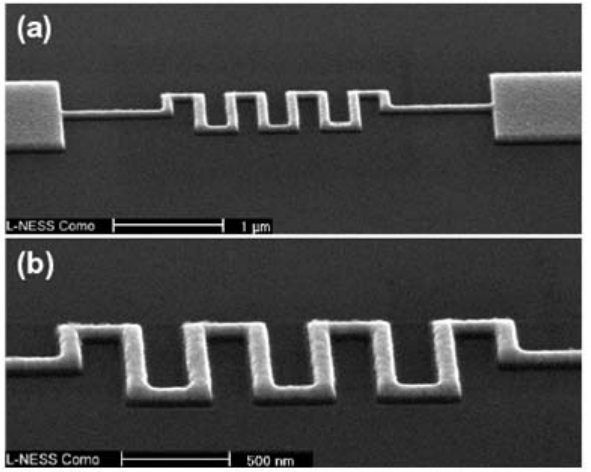
USB Serial Communication Board, developed for Test Laboratories International Inc., USA



SMD ferrite EMI suppressors, developed for the Littelfuse Ireland Limitted, Ireland

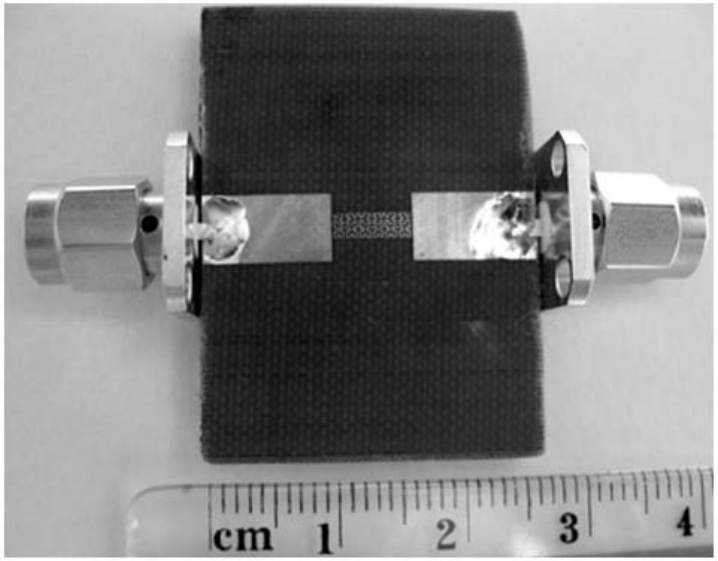


Pressure sensor developed in cooperation with Institute for sensors and actuators systems, Vienna, Austria



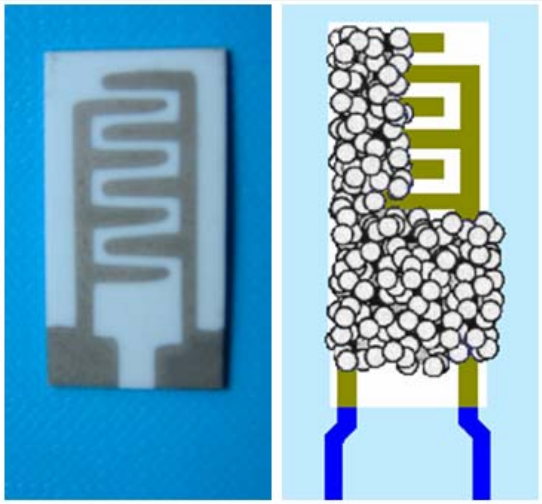
An meander inductor developed in cooperation with LNESS, Como, Milan Polytechnic, Como, Italy

Collaboration results

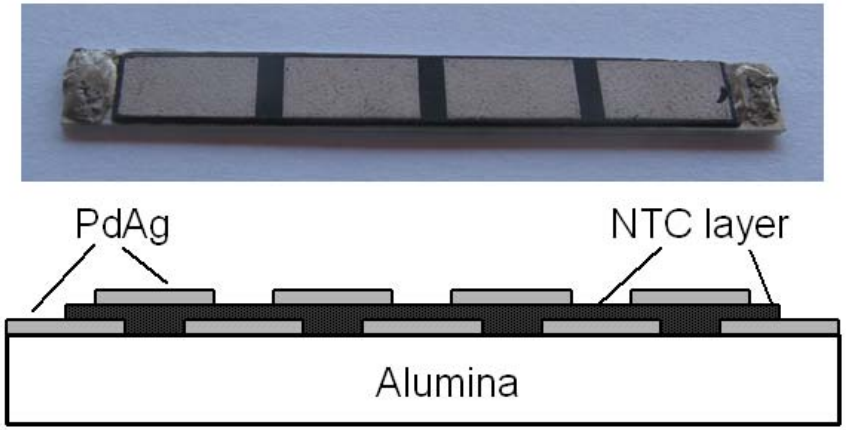


2D Hilbert resonator, developed in cooperation with Iritel

Indoor embedded system for monitoring of critical parameters in borehole measurement (NIS - Naftagas)



Interdigitated capacitor with nanostructured titania coatings for sensors applications, completely in-house developed

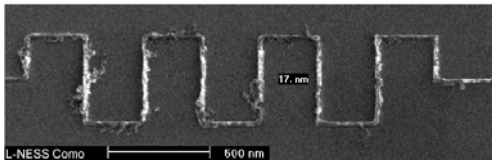


Segmented thick-film NTC thermistor, completely in-house developed and patented

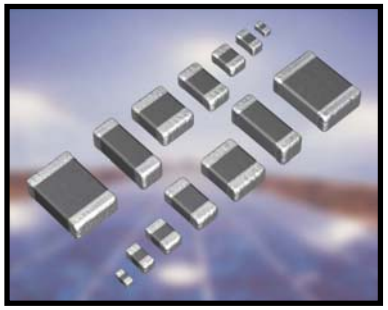
Research activities

The main research directions:

- Integrated micro/nano inductors and transformers



- EMI suppressors



- Sensors

- Characterization of different electronic materials and components

Research Projects

Important Research Projects

1. FP6 project: "*Reinforcement of the Center for Integrated Microsystems and Components*" (*Re*CIMiCo - no. 043669, coordinator: prof. Ljiljana Živanov), 2007-2010.

2. EUREKA project: "*New Generation of 3D Integrated Passive Components and Microsystems in LTCC Technology* " (IPCTECH – no. E!4570, coordinator: prof. Goran Stojanović), 2009 – 2011.

3. Bilateral project: "*Design, modeling and optimization of novel integrated passive components for power electronic application*", (coordinator: prof. Goran Stojanović), 2007-2009.

National projects which are currently in progress:

"*Novel configurations of ferrite transformers and EMI suppressors for DC/DC converters and telecommunications modules*", project no. 11023, 2008 – 2010, (coordinator: prof. Ljiljana Živanov)

"*Realization of high performances micro-sensors for operation in extreme environmental conditions*", project no. 114-451-01009/2008-01, 2008-2009, (coordinator: prof. Goran Stojanović)

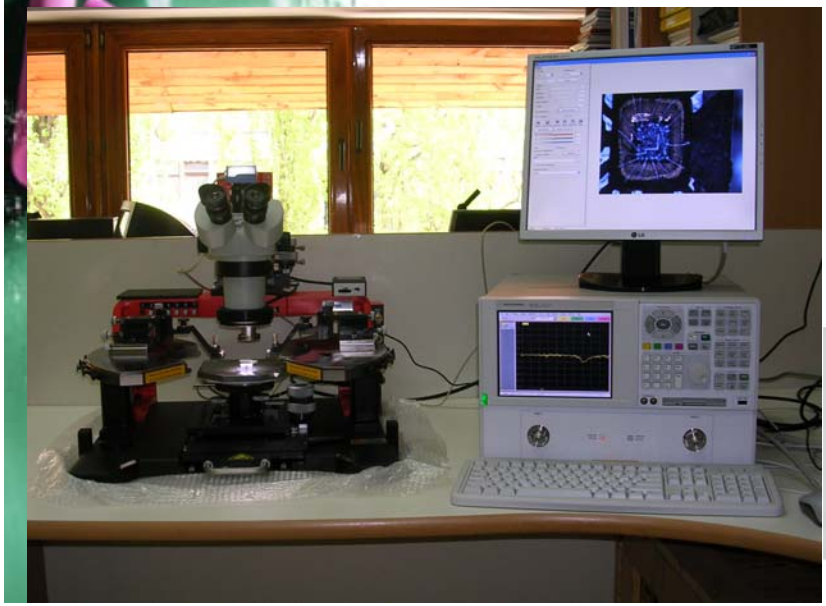
"*Synthesis nano powders and ceramics for application in new technologies*", (project no. 142059), 2005-2010, (coordinator: prof. Goran Stojanović).

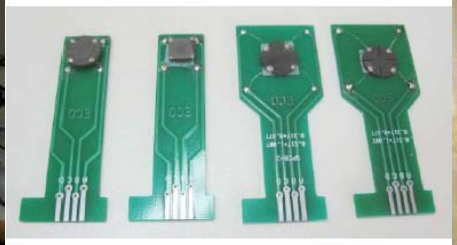
Equipment

Equipment

Some of the specific pieces of equipment are:

- Sun Blade 2500 Workstation, with 24.1-inch LCD monitor and Solaris O.S
- N5230A Agilent PNA-L Network Analyzer, 10MHz-50GHz
- E5071B Agilent Vector Network Analyzer, 300 kHz-8.5 GHz
- 4149A Impedance/Gain Phase Analyzer, 100Hz-40MHz
- RF/Microwave Wafer Probe Station, SUSS PM5
- Signatone DC Wafer Probe Station
- Hall Effect Measurement System HMS-3000
- HP 4277 A LCZ Meter to 1 MHz





Goran Stojanović - Selected publications

G. Stojanović, S. Savić, Lj. Živanov, “Important Role of the Hall Effect Measurement System in a Modified Course of Materials in Electrical Engineering”, ***IEEE Transaction on Education*** (IF: 0.815), 2009.

G. Stojanović, M. Damnjanović, Lj. Živanov, “Temperature dependence of electrical parameters of SMD ferrite components for EMI suppression”, ***Microelectronics Reliability*** (IF: 1.011), vol. 48, no. 7, pp. 1027- 1032, 2008.

G. Stojanović, V. Srdić, M. Maletin, “Electrical properties of yttrium-doped Zn and Ni–Zn ferrites”, ***Physica Status Solidi (a): Applications & Materials Science*** (IF: 1.214), vol. 205, no. 10, pp. 2464- 2468, 2008.

M. Damnjanović, G. Stojanović, V. Desnica, Lj. Živanov, R. Raghavendra, P. Bellew, N. Mcloughlin, “Analysis, design and characterization of ferrite EMI suppressors,” ***IEEE Transactions on Magnetics*** (IF: 0.938), vol. 42, no. 2, pp. 270-277, Feb. 2006.

G. Stojanović, M. Damnjanović, V. Desnica, Lj. Živanov, R. Raghavendra, P. Bellew, N. Mcloughlin, “High-performance zig-zag and meander inductors embedded in ferrite material”, ***Journal of Magnetism and Magnetic Materials*** (IF: 1.212), *Elsevier*, vol. 297/2, pp. 76-83, Feb. 2006.

M. Damnjanović, G. Stojanović, Lj. Živanov, Vladan Desnica, “Comparison of different structures of ferrite EMI suppresors,“ ***Microelectronics International*** (IF: 0.474) , vol. 23, no. 3, pp. 42-48, Sept. 2006.

G. Stojanović, Lj. Živanov, “Novel efficient method for inductance calculation of inductors with optimized layout,” ***International Journal of RF and Microwave Computer-Aided Engineering*** (IF: 0.496), vol. 16, no. 5, pp. 463-469, Sept. 2006.

G. Stojanović, Lj. Živanov, M. Damnjanović, “Novel efficient methods for inductance calculation of meander inductor”, ***COMPEL – The International Journal for Computation and Mathematics in Electrical Engineering*** (IF: 0.274), vol. 25, no. 4, pp. 916- 928, 2006.

R. Raghavendra, P. Bellew, N. Mcloughlin, G. Stojanović, M. Damnjanović, V. Desnica, Lj. Živanov, ”Characterization of Novel Varistor+Inductor Integrated Passive Devices, ***IEEE Electron Devices Letters*** (IF: 2.71), vol. 25, no. 12, pp. 778-780, Dec. 2004. ..... **etc.**

Goran Stojanović - awards:

- "Dr Zoran Djindjic" award for the best researcher in Vojvodina and the highest scientific achievements in the area of technological sciences, for 2007.

- Award for the best professor at the Faculty of Technical Sciences, Novi Sad, for 2008 (according to anonymous students' questionnaire).

- Third award for the best paper at the *XXXI International Conference of IMAPS*, Rzeszow – Krasiczyn, Poland, 23-26 September, 2007, for the paper "*Application of the LTCC technology for the fabrication of miniature 3D RF transformers*".

- "New year award" for the best Ph. D. thesis, 2005. from the Institute for Power, electronic and communication engineering, Faculty of Technical Sciences, Novi Sad, Serbia and Montenegro.

- "Award for the best paper of the young researcher", *XLVIII ETRAN Conference*, Čačak, Serbia and Montenegro, June 6-10, 2004, for the paper "*Simple and fast inductance expression for meander inductors*".