LISTA PUBLICAŢIILOR REZULTATE ÎN URMA CERCETĂRII DOCTORALE, PUBLICATE SAU ACCEPTATE SPRE PUBLICARE, SUB AFILIERE UPT

Ing. *Teodor-Octavian PĂCURAR* student doctorand

1. Lucrări ştiinţifice publicate în reviste indexate Web of Science-WoS (ISI)

1. A. De Sabata, A. Silaghi, C. Ionica, **O. Pacurar**, "Design of Liquid Based Frequency Selective Surfaces Operating as Absorbers," Advances in Electrical and Computer Engineering, vol.24, no.4, pp.75-82, 2024, doi:10.4316/AECE.2024.04008 (WOS:001415806000008)

2. Lucrări ştiinţifice publicate în volumele unor manifestări ştiinţifice (Proceedings) indexate Web of Science-WoS (ISI) Proceedings

1. A. Silaghi, **O. Pacurar**, A. De Sabata, "Investigations on radiated emissions repeatability below 30MHz", 2019 International Symposium on Signals, Circuits and Systems (ISSCS 2019), 11-12 July 2019, Iasi, Romania, 2019 (WOS:000503459500075).

2. **O. Pacurar**, A. Silaghi, A. De Sabata, „Aspects regarding radiated emissions produced by a head up display", 2019 IEEE 25th International Symposium for Design and Technology in Electronic Packaging (SIITME 2019), 23-26 October 2019, Cluj, Romania, pp. 30-33, 2019 (WOS: 000564733700003).

3. **O. Pacurar**, A. Silaghi, C. Balint, A. De Sabata, Adrian Graur, "Experiments Concerning the Spectrum Structure Inside an Automotive EMC Laboratory", 2020 International Conference on Development and Application Systems (DAS 2020), 21-23 May 2020, Suceava, Romania, pp. 133-136, 2020 (WOS:000589776100024).

4. **O. Pacurar**, A. Silaghi, A. De Sabata, "Measurement and Simulation of Electrostatic Discharge in the Automotive Industry", 2020 International Conference on Communication (COMM 2020), 18-20 June 2020, Bucharest, Romania, pp. 443-446, 2020 (WOS:000612723900079).

5.**O. Pacurar**, C. Balint, C. Iftode, A. Silaghi, A. De Sabata, "Spectrum Occupancy Measurements in the Wi-Fi Band with a PCB Antenna", 2020 14th International Symposium on Electronics and Telecommunications (ISETC 2020), 5-6 November 2020, Timisoara, Romania, pp. 1-4, 2020 (WOS:000612681000036).

6. A. Neiconi, **O. Pacurar**, A. De Sabata, „EMC Parameters used for Helical Antennas in Automotive EMC Testing", 5-6 November 2020, Timisoara, Romania, (WoS:00612681000035).

7. **O. Pacurar,** A. Silaghi, C.Balan, A.De Sabata, C.Balint, "Study regarding the configuration setup used inside an EMC Laboratory for NFC Communication Measurement", 2022 IEEE 28th International Symposium for Design and Technology in Electronic Packaging (SIITME), 26-29 October 2022, Bucharest, Romania (WOS:000947243400003)

3. Lucrări ştiinţifice publicate în volumele unor manifestări ştiinţifice (Proceedings) indexate BDI (cu specificarea BDI)

1. C. Balint, A. De Sabata, **O. Pacurar**, P. Bechet, „Markov Model for HF Joint Spectrum Occupancy at Two Distant Locations", The 26th International Conference Knowledge-Based Organization (KBO 2020), 11-13 June 2020, Sibiu, Romania, 2020

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AVIZAT, Conducător științific	ÎNTOCMIT, Student doctorand
Prof.univ.dr.ing. De Sabata Aldo	*ing. Păcurar Teodor-Octavian*

ANEXE atașate obligatorii

A) WOS:001415806000008

Design of Liquid Based Frequency Selective Surfaces Operating as Absorbers

By
Are you this author?

De Sabata, A (De Sabata, Aldo) [1] ; Silaghi, A (Silaghi, Andrei) [1] ; Ionica, C (Ionica, Cora) [1] ; Pacurar, O (Pacurar, Octavian) [1]

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Abstract

Liquid-based absorbers using frequency selective surfaces (FSSs) rely on 2D periodic lattices. Each unit cell contains one or more resonators filled with liquids, which dissipate electromagnetic energy. Water is preferred because of its wide availability and its high real and imaginary permittivity components. In this paper, we propose and optimize an all-dielectric unit cell structure placed on a metallic plane to function as an absorber when filled with water. A sharp and deep absorption resonance is obtained at 2 GHz, with a relative bandwidth of 14.5%. When optimized to work with methanol as absorbing liquid, the structure presents a resonance frequency of 1.25 GHz, with a relative bandwidth of 36.9%, and a second wide absorption band between 3.56 and 5 GHz. Field images are used to gain insight into the operation of the absorber. The sensitivity of the design to polarization, angle of incidence and temperature has been investigated. The proposed absorber has potential applications in scattering reduction, electromagnetic compatibility and energy harvesting.

Keywords

Author Keywords: electromagnetic compatibility; absorbers; electromagnetic compatibility; electromagnetic modeling; frequency selective surfaces; reflection coefficient
Keywords Plus: BROAD-BAND; METAMATERIAL

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Investigations on Repeatibility of Radiated Emissions Testing for Frequencies below 30 MHz

By Silaghi, AM (Silaghi, AAndrei-Marius) ; Pacurar, O (Pacurar, Octavian) ; De Sabata, A (De Sabata, Aldo)

Book Group Author IEEE

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Abstract In this paper, some methods concerning improving repeatability of Radiated Emissions (RE) testing for frequencies below 30 MHz are proposed and investigated. The proposals are made in the context of the CISPR 25 Annex J standard and are devised for improving testing activity in the Automotive industry. A proposed solution is intended for reducing spurious signal coupling and resonances during tests in a semi-anechoic chamber. This work represents the continuation of a previous paper by the authors on the topic of Absorber Lined Shielded Enclosure (ALSE) Chamber Validation.

Keywords **Author Keywords:** CISPR 25 Annex J; Radiated Emissions; Long-wire method; Automotive

Addresses [1] Univ Politehn Timisoara, Dept Measurements & Opt Elect, Timisoara, Romania
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Aspects Regarding Radiated Emissions Produced by a Head Up Display

By: Pacurar, O (Pacurar, Octavian)[1]; Silaghi, AM (Silaghi, Andrei-Marius)[1]; De Sabata, A (De Sabata, Aldo)[1]

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Abstract

The radiated emissions (RE) measurement is one of the most important tests that must be performed during a full qualification stage, in order to validate an electronic product for series production, in the automotive industry. Radiated emissions test must ensure that the level of the spurious signals is below a frequency dependent stated value (limit), agreed for proper operation of the DUT in its intended environment and application. The originality of this paper is to present a shielding solution that is confirmed in both near field and far field to reduce the time to market for the product. The magnetic near field measurements are performed by using the EMSCAN system. Acquired near field signals are used for finding the electronic components that are the source of emissions and as guidelines to the solution.

Keywords

Author Keywords: radiated emissions; semi-anechoic chamber; antennas; farfield; near field scanning

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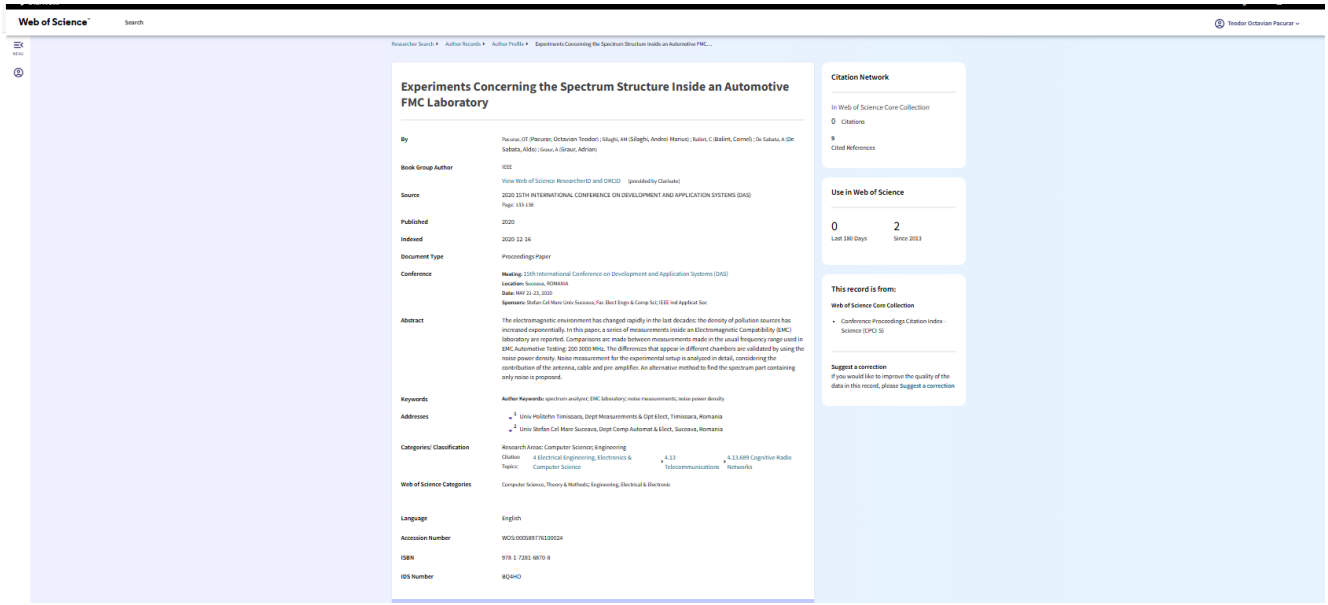

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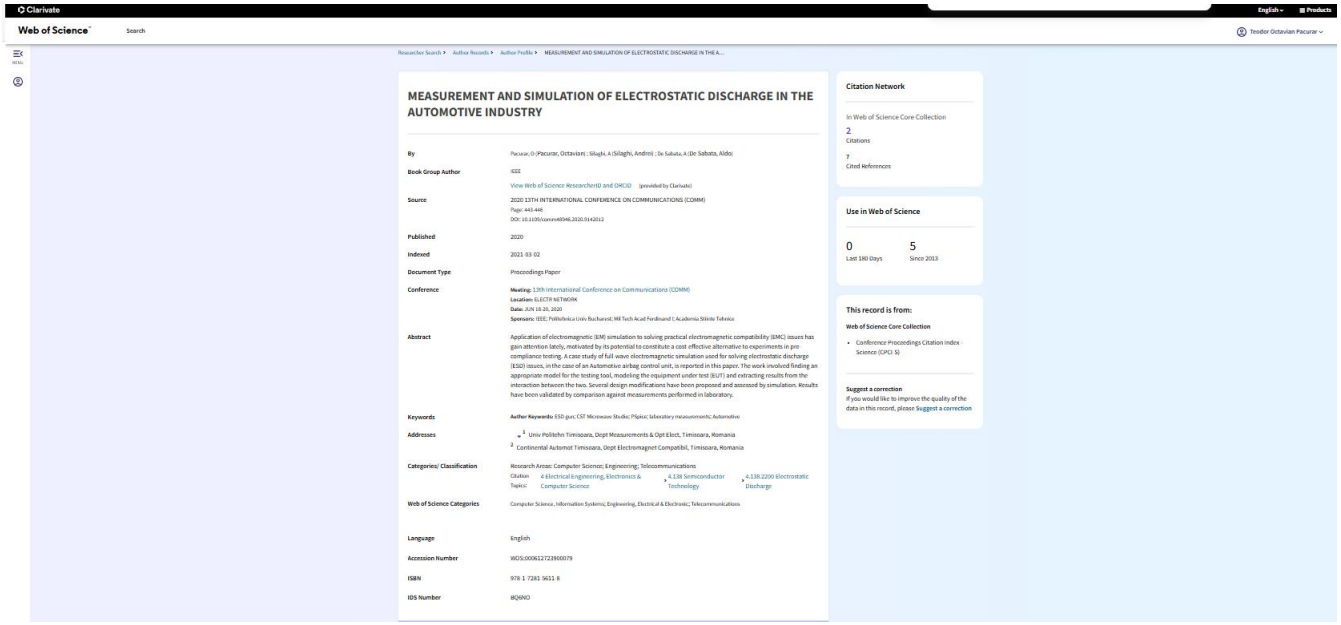

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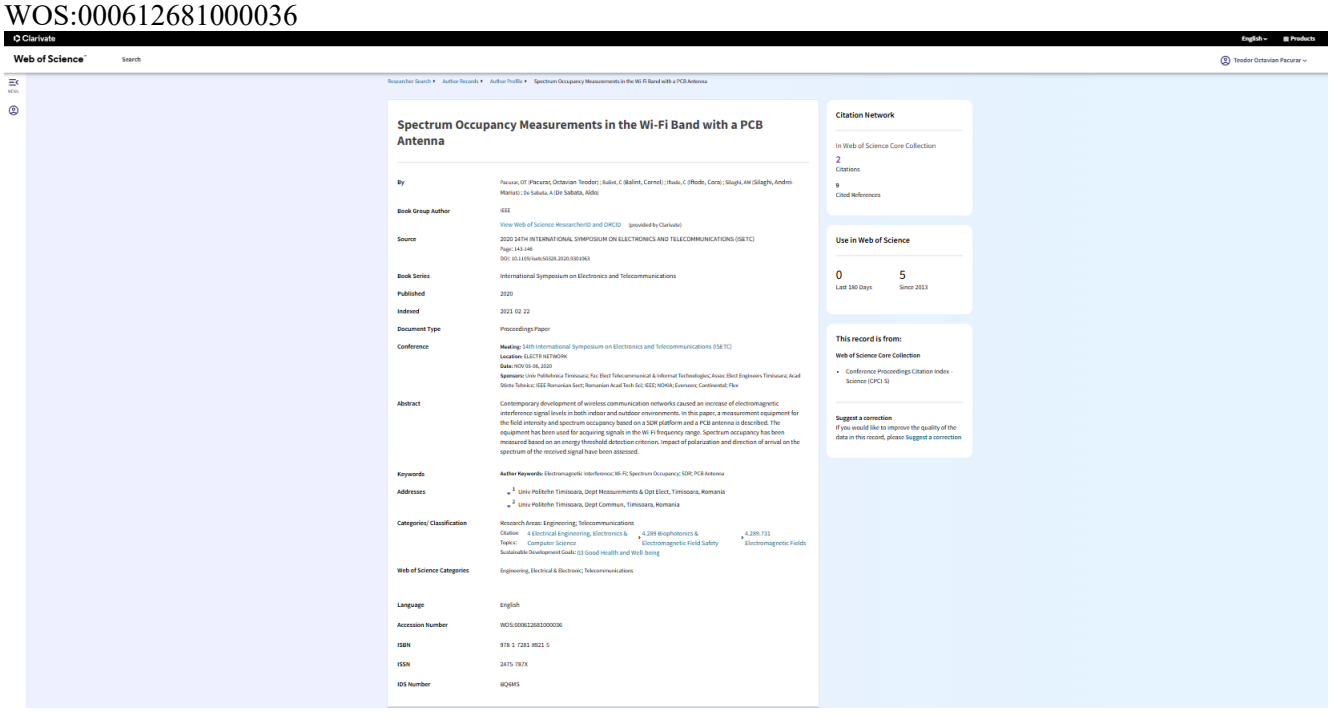

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EMC Characteristics of Helical Antennas used in Automotive Testing

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By Neiconi, AO (Neiconi, Andrei-Ovidiu) [1] ; Pacurar, OT (Pacurar, Octavian-Teodor) [1] ; De Sabata, A (De Sabata, Aldo) [1]

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Abstract Radiated immunity (RI) testing is gaining momentum due to current tendency of increasing presence of complex electronic systems inside cars. Meaningful RI testing results are crucial for driving safety. However, testing equipment is prone to parameter modification because of aging and overuse. In this paper, measurements on NMHA antennas and connectors used in RI testing in the frequency range between 26 MHz and 360 MHz are reported and compared to producers' data and solutions for improving reliability of the tests in a real EMC laboratory context are proposed and assessed.

Keywords **Author Keywords:** EMC; Radiating Immunity; Helical Antennas; Connectors; VSWR; Smith Chart

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Study Regarding the Configuration Setup used inside an EMC Laboratory for NFC Communication Measurement

By Pacurar, TO (Pacurar, Teodor Octavian) ; Silaghi, AM (Silaghi, Andrei-Marius) ; Balan, C (Balan, Catalin) ; De Sabata, A (De Sabata, Aldo) ; Balint, C (Balint, Cornel)

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Abstract In this paper, we present a study regarding configuration setup used inside a semi-anechoic chamber, from an EMC Laboratory facility. Comparisons are made at the Near Field Communication (NFC) frequency band of an automotive Device Under Test (DUT) tested at 13.56 MHz, between results obtained with different configurations and different antenna types: monopole antenna and loop antenna.

Keywords **Author Keywords:** EMC Laboratory; Loop antenna; NFC; semianechoic chamber; Monopole antenna

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