

Patents list (2000-2021):

1. E.Surducan, **V. Surducan**, Procedeu pentru detecția vizuală a radiației de microunde și detector vizual de radiație de microunde realizat pe baza acestui procedeu ([Process for visual detection of microwave radiation and visual microwave detector carried out by said process](#)) **RO135000A0, 2021.**
2. **V. Surducan**, S. Macavei, E.Surducan, Dispozitiv pentru caracterizarea materialelor termoelectrice ([Device for characterizing thermoelectric materials](#)) **RO134457A0, 2020.**
3. **V. Surducan**, E.Surducan, O.R. Bruj, G. Mihăilescu, Dispozitiv de încărcare, măsură și echilibrare prin comutare secvențială a acumulatorilor conectate în banc ([Device for accumulators charging, measure and balancing by sequential switching of secondary batteries connected in a bank](#)) **RO134072A0, 2019.**
4. **V.Surducan**, A.Ciorîță, E.Surducan, Dispozitiv fotografic pentru observarea în timp real a evoluției materialului biologic microscopic *in vitro* ([Device for the real time observation of the evolution of microscopic material in vitro](#)), **RO133721A0, 2019.**
5. **V. Surducan**, E.Surducan, C. Neamțu, Arie de senzori de temperatură pentru caracterizarea omogenității încălzirii alimentelor ([Array of temperature sensors for characterizing food heating homogeneity](#)), **RO132883A0, 2018.**
6. **V. Surducan**, R. Gutt, E.Surducan, Dispozitiv microconvertor ridicător de tensiune și metodă de realizare a acestuia, ([Voltage step-up micro-converter device and method for carrying up the same](#)) **RO133531A0, 2018.**
7. S. D. Iancu, E.Surducan, **V.Surducan**, Antenă monolitică dual-band, ([Monolithic dual band antenna](#)), **Patent pending: KR20180051494A, CN108140709A, EP3326214A1, US2017025757A1, WO2017015265A, 2018.**
8. **V.Surducan**, E.Surducan, Automat mobil pentru micro-irigare cu măsurarea umidității solului și funcționare autonomă ([Mobile automatic micro-irrigation device with soil moisture measurement and autonomous operation](#)), **RO131669A0, 2017.**
9. A.Limare, E.Surducan, **V.Surducan**, C.Neamtu, E. Di Giuseppe, Microwave heating device, **RO131921A2, EP2947961A1, WO2015177244A1, 2017.**
10. E.Surducan, **V.Surducan**, C. Neamtu, Antenă de bandă largă și antenă redresoare realizată din ea pentru colectarea electrosmogului și conversia lui în energie electrică, ([Broadband antenna and rectenna made therewith, for collecting electrosmog and converting the same into electric energy](#)), **RO131697A0, 2017.**
11. **V.Surducan**, E.Surducan, D.Dadârlat, Aplicator de microunde cu arie de detectori integrați pentru măsurarea temperaturii, ([Microwave applicator with integrated detector area for temperature measurement](#)), **RO131080A2, 2016.**
12. **V.Surducan**, E.Surducan, N.Gligan, G.Blanita, Dispozitiv de reducere a pierderilor în rețele de apă ([Device for reducing losses in faulty water networks that cannot be immediately repaired](#)), **RO131580B1, 2016.**
13. C.D.Tudoran, **V.Surducan**, E.Surducan, D.Dadârlat, Sistem portabil pentru prepararea rapidă a biodiselului ([Portable system for quick preparation of biodiesel fuel](#)), **RO131127B1, 2016.**
14. C.D.Tudoran, M.C.Tudoran, **V.Surducan**, E.Surducan, D.Dadârlat, N.I.Toșa, Reactor cu plasmă rece pentru obținerea biodiselului ([Cold plasma reactor for preparing biodiesel fuel](#)), **RO131043B1, 2016.**
15. E.Surducan, **V.Surducan**, Dispozitiv pentru conectarea unei camere la o incintă de tratament în câmp de microunde de putere pentru obținerea în timp real a imaginilor probei procesate ([Device for connecting a camera to a treatment enclosure under power microwave field for taking over in real time images of a processed sample](#)), **RO129276B1, 2014.**
16. **V.Surducan**, E.Surducan, Driver universal pentru controlul motoarelor pas cu pas unipolare ([Universal driver for the control of unipolar stepper motors](#)) **RO128962B1, 2013.**
17. **V. Surducan**, E.Surducan, A. Limare, Bloc de stabilizare și control destinat alimentării curentului de filament al magnetronelor ([Stabilizing and controlling block meant to supply magnetron filament current](#)), **RO130089A2, 2013.**
18. E.Surducan, **V. Surducan**, Adela Halmagyi, Stimularea dezvoltării plantelor în câmp de microunde, ([Process and installation for stimulating plant development in microwave field](#)) **RO125068B1, 2012.**

19. E.Surducan, **V.Surducan**, L. M. Soran, I. Bros, Metoda de separare cromatografica pe strat subțire în câmp de microunde și instalație pentru aplicarea acestei metode, ([Method for thin layer chromatography separation in microwave field and installation for carrying out said method](#)) **RO123363B1, 2011.**
20. **V.Surducan**, E.Surducan, Sistem de alimentare pentru releu electronic pilotat de microcontroler ([System for supplying an electronic relay, microcontroller driven](#)) **RO126003B1, 2011.**
21. E.Surducan, **V.Surducan**, Metodă și transductor pentru măsurarea temperaturii în procesările efectuate în câmp de microunde de putere ([Method and transducer for temperature measurement in microwave power field processing](#)) **RO125999B1, 2011.**
22. V. Coman, S. Kreibik, **V. Surducan**, P. Bodoga, V. Avram, Procedeu de obținere a sensidiscurilor pentru antibiograme ([Procedure for antibiogram sensidisk manufacture](#)) **RO00122152B1, 2009.**
23. E.Surducan, **V.Surducan**, Procedeu și instalație pentru procesare dinamică a substanței în câmp de microunde de putere ([Process and installation for dynamic processing of substance in microwave field](#)) Patent **RO112063B1, 2008.**
24. E.Surducan, S.Filip, **V.Surducan**, Metoda de activare a cauciucului de tip EPDM în plasmă de microunde ([Process for activating ethilene-propilen-diene rubber in microwave plasma](#)) **RO116624B1, 2001.**
25. E.Surducan, **V.Surducan**, Procedeu și dispozitiv pentru încălzirea fluidelor fără pierderi dielectrice în câmp de microunde de putere ([Process and device for heating fluids without dielectric losses in the microwave power field](#)) **RO116515B1, 2001.**
26. E.Surducan, **V.Surducan**, Traductor termografic pentru radiație de microunde de putere ([Thermographic transducer for power microwave radiation](#)), **RO116506B1, 2001.**
27. E.Surducan, **V.Surducan**, G.Nagy, S.Filip, Instalație de tratament în câmp de microunde cu control de mod ([Instalation for treatment in microwave field](#)) **RO116514B1, 2001.**

Scientific & technical papers (almost) complete list (2000-2021)

1. Angela Limare, Balthasar Kenda, Edouard Kaminski, Emanoil Surducan, **Vasile Surducan**, Camelia Neamtu, [Transient convection experiments in internally-heated systems](#), MethodsX, Volume 8, 2021, 101224, ISSN 2215-0161, <https://doi.org/10.1016/j.mex.2021.101224>, **2021.**
2. **Vasile Surducan**, Emanoil Surducan, Robert Gutt., [Harvesting and conversion of the environmental electromagnetic pollution into electrical energy by novel rectenna array coupled with resonant micro-converter](#), Energy, Volume 211, 2020, 118645, ISSN 0360-5442, <https://doi.org/10.1016/j.energy.2020.118645>, **2020.**
3. **Vasile Surducan**, Emanoil Surducan, Camelia Neamtu, Augustin C. Mot, Alexandra Ciorîță, [Effects of Long - Term Exposure to Low - Power 915 MHz Unmodulated Radiation on Phaseolus vulgaris L.](#), Bioelectromagnetics, <https://doi.org/10.1016/j.mex.2021.101224>, **2020.**
4. **Surducan, Vasile**; Surducan, Emanoil; [Efficient low-power wireless communication setup for an autonomous soil moisture sensor](#), AIP Conference Proceedings, vol.1971 no.1, **2017**,
5. Halmagyi, A; Surducan, E; **Surducan, V.**; [The effect of low-and high-power microwave irradiation on in vitro grown Sequoia plants and their recovery after cryostorage](#), Journal of biological physics, vol43, no.3, pp:367-379, **2017**,
6. Fourel, Loic; Limare, Angela; Jaupart, Claude; Surducan, Emanoil; Farnetani, Cinzia G; Kaminski, Edouard C; Neamtu, Camelia; **Surducan, Vasile**; [The Earth's mantle in a microwave oven: thermal convection driven by a heterogeneous distribution of heat sources](#), Experiments in Fluids, vol.58, no.8, **2017**,
7. Balint, CV; **Surducan, V**; Surducan, E; Oroian, IG; [Plant irradiation device in microwave field with controlled environment](#), Computers and electronics in agriculture, vol: 121, Pages: 48-56 DOI: 10.1016/j.compag.2015.11.012, **2016**,
8. Dadarlat, D.; Tudoran, C.; **Surducan, V.**; Bourges, C.; Lemoine, P.; Guilmeau, E.; [Photothermoelectric \(PTE\) detection of phase transitions. Application to triglycinesulphate \(TGS\)](#), Thermochimica Acta Volume: 624 Pages: 21-26, DOI: 10.1016/j.tca.2015.11.022, **2016**,

9. **Surducan, Vasile**; Surducan, Emanoil; Neamtu, Camelia; Dadarlat, Nicolae; Ciupa, Radu; [Easily usable human-device interface for microwave therapy apparatus](#), International Journal of Engineering & Technology, vol.4, no.1, **2015**,
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11. Limare, A.; Vilella, K.; Di Giuseppe, E; Farnetani, C. G. ; Kaminski, E.; Surducan, E. ; **Surducan, V.**; Neamtu, C.; Fourel, L.;Jaupart, C.; [Microwave-heating laboratory experiments for planetary mantle convection](#), Journal of Fluid Mechanics Volume: 777 Pages: 50-67, DOI: 10.1017/jfm.2015.347, **2015**,
12. Limare, A; Fourel, L; Surducan, E; Neamtu, C; **Surducan, V**; Vilella, K; Farnetani, CG; Kaminski, E; Jaupart, C; [Microwave-based, internally-heated convection: New perspectives for the heterogeneous case](#), AIP Conference Proceedings, vol.1700, no.1, **2015**,
13. Surducan, E; Neamtu, C; Ienciu, M; **Surducan, V**; Limare, A; Fourel, L; [Dielectric properties measurement method in the microwave frequencies range for non-polar/polar liquid mixtures characterization](#), AIP Conference Proceedings, vol.1700, no.1, **2015**,
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