

## Publikationen

- (2020): MRAC Implementation for Electric Throttle Valve. In: Proceedings of the 2020 10th International Conference on Advanced Computer Information Technologies (ACIT) [September 6-8, 2020; Deggenndorf]. DOI: 10.1109/ACIT49673.2020.9208929.
- (2020): A new route to piezo-polymer transducers: 3D printing of polypropylene ferroelectrets. In: IEEE Transactions on Dielectrics and Electrical Insulation, vol. 27, no. 5, pp. 1668-1674. DOI: 10.1109/TDEI.2020.008461.
- (2020): Unexpected bipolar space-charge polarization across transcryalline interfaces in polypropylene electret films. In: Journal of Applied Physics, vol. 128, no. 13. DOI: 10.1063/5.0022071.
- (2020): The influence of orthophosphoric-acid surface modification on charge-storage enhancement in polypropylene electrets. In: Journal of Applied Physics, vol. 128, no. 3. DOI: 10.1063/5.0013805.
- (2019): Controlling Trapping Parameters via Polymer Structure and Composition? (Keynote). In: Book of Abstracts of the 17th International Symposium on Electrets (ISE17) 2019 (2-6 September 2019, University of Limerick, Ireland).
- (2019): Depth Profile and Transport of Positive and Negative Charge in Surface (2-D) and Bulk (3-D) Nanocomposite Films. In: Proceedings of the 2nd International Conference on Electrical Materials and Power Equipment Electrical (ICEMPE) [7-10 April 2019; Guangzhou, China]. DOI: 10.1109/ICEMPE.2019.8727256.
- (2019): XCP Service Integration for Model-Based, Automatic Production Code Generation. In: Proceedings of IEEE EUROCON 2019 -18th International Conference on Smart Technologies. DOI: 10.1109/EUROCON.2019.8861774.
- (2018): Influence of Charge Density on Charge Decay in Chemically Modified Polypropylene Films. In: Proceedings of the IEEE 2nd International Conference on Dielectrics, Budapest, Hungary.
- (2018): Senskin deformable silicone-elastomer sensors for structural health monitoring: assessment of strain sensitivity and correction for thermal expansion. In: Proceedings of the 8th International Conference on Electromechanically Active Polymer (EAP) Transducers & Artificial Muscles , Valpré Ecully - Lyon, France.
- (2018): Soft Stretchable All-Silicone Sensor for Transport-Infrastructure Monitoring. In: Sensoren und Messsysteme 2018 19. ITG-/GMA-Fachtagung.
- (2018): The Influence of Recrystallization Regimes on Electret Charge Stability in Low-Density Polyethylene Films. In: Proceedings of the IEEE 2nd International Conference on Dielectrics, Budapest, Hungary.
- (2018): Strain monitoring system for steel and concrete structures. In: Procedia Structural Integrity, vol. 10, pp. 25-32. DOI: 10.1016/j.prostr.2018.09.005.
- (2018): Template-based fluoroethylenpropylene ferroelectrets with enhanced thermal stability of piezoelectricity. In: Journal of Applied Physics, vol. 124, no. 17. DOI: 10.1063/1.5041374.
- (2018): Influence of Charge Density on the Trap-Energy Spectrum in Fluoroethylenpropylene Copolymer Films with Chemically Modified Surfaces. In: IEEE Transactions on Dielectrics and Electrical Insulation, vol. 25, no. 3, pp. 840-844. DOI: 10.1109/TDEI.2018.007437.
- (2018): Model-Driven Engineering in Education. In: 18th International Conference on Mechatronics-Mechatronika 2018, Brno, Tschechische Republik.
- (2018): Model-Driven Engineering in Education. In: Proceedings of the 2018 18th International Conference on Mechatronics - Mechatronika (ME) (December 5-7, 2018; Brno, Czech Republic).

- (2018): Model-Driven Engineering in Education: Position Control of an Electronic Throttle Valve. In: 5th EcETAN International Conference for Electronics, Telecommunications, Computers, Automatic Control and Nuclear Engineering, Palić, Serbien.
- (2017): Pressure dependence of the piezoelectric  $d_{33}$  coefficient and the cellular-foam structure in polypropylene ferro- and piezoelectrets. In: Proceedings of the 16th International Symposium on Electrets, Leuven, Belgium.
- (2017): Piezoelectrically generated Pressure Steps (PPS) for studying charge distributions on corona-charged Polypropylene (PP) films. In: Proceedings of the 16th International Symposium on Electrets, Leuven, Belgium.
- (2017): Influence of foreign chemical structures from nitric acid treatment on electret and electrical-insulation properties of polypropylene. In: Proceedings of the 16th International Symposium on Electrets, Leuven, Belgium.
- (2017): Trap-energy spectrum in corona-charged polytetrafluoroethylene (PTFE) electret films with modified surfaces. In: Proceedings of the 16th International Symposium on Electrets, Leuven, Belgium.
- (2017): Soft Capacitive Sensors for Structural Health Monitoring. In: Proceedings of the 14th International Conference " Dielectrics 2017".
- (2017): Structural health monitoring system for bridges based on skin-like sensor. In: IOP Conference Series: Materials Science and Engineering, vol. 236, no. Proceedings of BESTInfra2017 - Building up Efficient and Sustainable TransportInfrastructure 2017. DOI: 10.1088/1757-899X/236/1/012100.
- (2017): Chemical modification with orthophosphoric acid enhances surface-charge stability on polypropylene electrets. In: Applied Physics Letters, vol. 110, no. 19. DOI: 10.1063/1.4983348.
- (2016): Skin-like Sensor Enabled Bridge Structural Health Monitoring System. In: Proceedings of the 8th European Workshop On Structural Health Monitoring (EWSHM 2016), Bilbao, Spain.
- (2016): Influence of surface modifications with orthophosphoric acid on the charge stability of polypropylene electrets. In: IEEE Annual Report Conference on Electrical Insulation and Dielectric Phenomena (2016 IEEE CEIDP).
- (2016): Polymer Electrets and Ferroelectrets as EAPs: Models" Book chapter in "Electromechanically Active Polymers". In: Electromechanically Active Polymers, Cham.
- (2016): Energy Spectrum of Surface Traps on Teflon-FEP Films Modified with Titanium-Tetrachloride Vapor. In: Proceedings of the ICD 2016 1st International Conference on Dielectrics, Montpellier, France.
- (2016): Modelling the Isothermal Charge Decay of Modified PTFE Electrets from their Thermally Stimulated Discharge. In: IEEE Annual Report Conference on Electrical Insulation and Dielectric Phenomena (2016 IEEE CEIDP).
- (2015): Properties and Applications of Ferroelectrets. In: The Nano-Micro Interface, Weinheim, vol. Vol. 1.
- (2015): Unipolar Teflon -FEP Ferroelectrets – Choice of Negative Electret Charge Enhances Stability. In: IEEE Annual Report Conference on Electrical Insulation and Dielectric Phenomena (2015 IEEE CEIDP).
- (2015): Rubbing Treatment before Chemical Surface Modification Enhances Deep Trapping of Positive Charge on Polytetrafluoroethylene (PTFE) Electrets. In: IEEE Annual Report Conference on Electrical Insulation and Dielectric Phenomena (2015 IEEE CEIDP).
- (2015): Electromechanical transducer device for use in e.g. actuator device, has electret material having predetermined electrical charge, which is provided between electro-active layers.
- (2014): Enhanced Stability of Negative Charge on FEP-Copolymer Electrets Treated with  $TiCl_4$  Vapor: Voltage-Recovery Experiment. In: Conference Proceedings of the 15th International Symposium on Electrets.
- (2014): Unipolar ferroelectrets - Following the example of the electret microphone more closely. In: Annual Report Conference on Electrical Insulation and Dielectric Phenomena (2014 IEEE CEIDP).
- (2014): Improved thermal stability of FEP ferroelectrets through inner voids surface modification. In: Materials of XIII International Conference "PHYSICS OF DIELECTRICS" (DIELECTRICS-2014), vol. Vol. 2.



- (2014): The Influence of Carbon-Nanotube Electrodes on the Charge Decay in Silicone-Elastomer Films for Electro-Electret Applications. In: Conference Proceedings of the 15th International Symposium on Electrets.
- (2014): Stabilization of Electric Charges on Self-Organized Nano-Islands. In: Conference Proceedings of the 15th International Symposium on Electrets.
- (2014): Thermal stability of negative homocharge in tetrafluoroethylene-hexafluoropropylene copolymer films. (in Russian). In: Proceedings of the XIII International Conference "Physics of Dielectrics", vol. Vol. 2.
- (2014): Method of film electret production involves application of fluoropolymer layer onto metal electrode.
- (2014): Method of film electret production, involves application of fluoropolymer layer onto metal electrode and discrete layer consisting of isolated nano-sized aggregates out of titan-containing nanostructures onto fluoropolymer surface.
- (2013): Stabilization of Positive Charge on FEP Electret Films Modified with Titanium-Tetrachloride Vapor: Formation of a Two-Dimensional Nanodielectric?. In: 2013 IEEE International Conference on Solid Dielectrics (ICSD). DOI: 10.1109/ICSD.2013.6619860.
- (2013): СТАБИЛИЗАЦИЯ ЗАРЯДА ПОЛИМЕРНЫХ ЭЛЕКТРЕТОВ (Charge stabilization in polymer electrets). A textbook for Engineering or Physics bachelor/master students. ISBN: 978-5-8064-1938-6.
- (2013): Thermally Stimulated Electret Surface Potential Recovery in Polyethylene Films Modified in Phosphorus Trichloride Vapor. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 157, pp. 113-118.
- (2013): Higher stabilities of positive and negative charge on tetrafluoroethylene-hexafluoropropylene copolymer (FEP) electrets treated with titanium-tetrachloride vapor. In: Applied Physics A - Materials Science and Processing, vol. 112, no. 2, pp. 283-287. DOI: 10.1007/s00339-013-7821-1.
- (2012): Triboelectrification and Thermal Stability of Positive Charge on Polytetrafluoroethylene Electret Films. In: Annual Report Conference on Electrical Insulation and Dielectric Phenomena (2012 IEEE CEIDP), Piscataway, NJ, USA.
- (2012): Laminated tubular-channel ferroelectret systems from low-density polyethylene films and from fluoroethylene-propylene copolymer films-A comparison. In: IEEE Transactions on Dielectrics and Electrical Insulation, vol. 19, no. 4, pp. 1116-1123. DOI: 10.1109/TDEI.2012.6259978.
- (2012): Increased permittivity nanocomposite dielectrics by controlled interfacial interactions. In: Composites Science and Technology, vol. 72, no. 6, pp. 731-736. DOI: 10.1016/j.compscitech.2012.01.026.
- (2012): Treatment with orthophosphoric acid enhances the thermal stability of the piezoelectricity in low-density polyethylene ferroelectrets. In: Journal of Applied Physics, vol. 111, no. 12. DOI: 10.1063/1.4729866.
- (2012): Enhanced electret charge stability on polyethylene films treated with titanium-tetrachloride vapor. In: IEEE Transactions on Dielectrics and Electrical Insulation, vol. 19, no. 4, pp. 1305-1311. DOI: 10.1109/TDEI.2012.6260005.
- (2012): Chemical and physical surface modification of PTFE films— an approach to produce stable electrets. In: Applied Physics A - Materials Science and Processing, vol. 107, no. 3, pp. 589-596. DOI: 10.1007/s00339-012-6834-5.
- (2012): Method of film electret production, involves applying fluoropolymer layer on metal electrode surface with electretting and applying discrete layer on fluoropolymer surface with nanosized aggregates of titan-containing nanostructures.
- (2011): Molecular level materials design for improvements of actuation properties of dielectric elastomer actuators. In: Proceedings of SPIE 7976. DOI: 10.1117/12.880981.
- (2011): Electret Properties of Polyethylene Films Modified with Titanium Tetrachloride Vapor. In: Proceedings of the 14th International Symposium on Electrets (ISE11), Piscataway, NJ, USA. DOI: 10.1109/ISE.2011.6085007.
- (2011): Stabilization of positive charge on polytetrafluoroethylene electret films treated with titanium-tetrachloride vapor. In: Applied Physics Letters, vol. 98, no. 12. DOI: 10.1063/1.3565166.



- (2011): Electret Properties of Polyethylene and Polytetrafluoroethylene Films with Chemically Modified Surface. In: IEEE Transactions on Dielectrics and Electrical Insulation, vol. 18, no. 1, pp. 8-14. DOI: 10.1109/TDEI.2011.5704487.
- (2010): Electret Properties of Polymer Films and Fiber Materials Modified by Phosphorus Trichloride. In: Proceedings of the 2010 10th IEEE International Conference on Solid Dielectrics (ICSD).
- (2010): Improved Dielectric Elastomer Actuator Materials Based on Ceramic-polymer Nanocomposites. In: Actuator 10, Bremen.
- (2010): Improvement of Materials for Dielectric Elastomer Actuators Based on Conducting Particle Composites. In: Actuator 10, Bremen.
- (2010): Nano-scale Materials Science for Soft Dielectrics: Composites for Dielectric Elastomer Actuators. In: Proceedings of the 2010 10th IEEE International Conference on Solid Dielectrics (ICSD). DOI: 10.1109/ICSD.2010.5568262.
- (2010): Materials science on the nano-scale for improvements in actuation properties of dielectric elastomer actuators. In: Proceedings of SPIE 7642. DOI: 10.1117/12.847281.
- (2010): Force Relaxation in Charged Dielectric Elastomer Actuators. In: Proceedings of the 2010 10th IEEE International Conference on Solid Dielectrics (ICSD). DOI: 10.1109/ICSD.2010.5568252.
- (2009): Electret phenomenon in non-polar polymers with element-containing nanocomplexes on the surface. In: Proceeding of the VI Conference "Young Scientists 2009", St. Petersburg, Russia.
- (2009): Mechanisms and models of electret phenomenon in non-polar polymers. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 95, pp. 47-62.
- (2008): Electret phenomenon in polymers with chemically modified surface. In: Proceedings of the XI International Conference "Physics of Dielectrics".
- (2008): The stability of electret state in polyethylene films modified with phosphorus trichloride vapor. In: Proceedings of the XI International Conference "Physics of Dielectrics".
- (2008): Homocharge transport in non-polar polymers with a gas-phase modified surface. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 48, pp. 75-82.
- (2007): Electret phenomenon in low density polyethylene films with modified surface. In: Proceedings of the International Conference "Fundamental problems of radio-electronic instrument-making", vol. Vol. 3.
- (2007): Influence of Chemical Modification of the Surface of Low-Density Polyethylene on Its Electret Properties. In: Russian Journal of Applied Chemistry, vol. 80, no. 3, pp. 461-465. DOI: 10.1134/S1070427207030214.
- (2007): Phenomenon of electret charge stabilization in polytetrafluoroethylene films with chemically modified surface. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 7, no. 26, pp. 137-142.
- (2007): Electret charge stability in film and fibrous polyethylene modified by phosphorus trichloride vapors. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 8, no. 38, pp. 89-97.
- (2006): Electret phenomenon in film and fibrous LDPE modified by phosphorus trichloride vapors. In: Proceedings of the International Conference "Fundamental problems of radio-electronic instrument-making", vol. Vol. 3.
- (2006): Energy spectrum of surface states in LDPE films modified with PCI<sub>3</sub> vapours. In: Proceedings of the 3rd International Conference "Surface Chemistry and Nanotechnology".
- (2006): Electret materials based on non-polar polymers with surface phosphorus-containing nanostructures. (in Russian). In: Journal of Advanced Materials, vol. 2, pp. 19-25.
- (2006): Energy spectrum determination method for localized states on the surface of charged dielectrics. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 6, no. 15, pp. 170-177.



- (2006): Electret charge stabilization in polymer films with element-containing nanostructures on the surface. In: Proceedings of the 3rd International Conference "Surface Chemistry and Nanotechnology".
- (2005): Homocharge stability in low density polyethylene film electrets with surface phosphorus-containing nanostructures. In: Proceedings of the International Conference "Thin films and nanostructures".
- (2005): Electret phenomenon in non-polar fluoropolymers with phosphorus-containing nanostructures on the surface. In: Proceedings of the International Conference "Polycomtrib-2005".
- (2005): Corona-charged electrets from phosphorus chloride vapor modified non-polar polymers. In: Proceedings of the International Conference "Thin films and nanostructures".
- (2005): Electret phenomenon in tetrafluoroethylene-hexafluoropropylene copolymer with nanostructures built into the surface. In: Proceedings of the International Conference "Young Scientists 2005".
- (2005): Полимерные диэлектрики : учеб. пособие (Polymer dielectrics). A textbook for Engineering or Physics bachelor/master students. ISBN: 5-94777-041-5.
- (2005): Electret phenomenon in non-polar fluoropolymers with phosphorus-containing nanostructures on the surface" Materials Technologies Instruments. (in Russian). In: Materials Technologies Instruments, vol. 10, no. 3, pp. 74-78.
- (2005): New electret materials based on polymers with modified surface and melt-blown polymers. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 5, no. 13, pp. 204-219.
- (2004): Influence of Chemical Modification of the Surface on the Electret Properties of Polytetrafluoroethylene. In: Russian Journal of Applied Chemistry, vol. 77, no. 2, pp. 276-280. DOI: 10.1023/B:RJAC.0000030366.96644.2c.
- (2004): Electret properties of polytetrafluoroethylene with element-containing nanostructures on the surface. In: Proceedings of the International Conference "Dielectrics 2004".
- (2004): The stability of polymer electrets with surface nanostructures in severe climatic conditions. In: Proceedings of the International Conference "Thin films and nanostructures".
- (2004): Microscopic parameters of electret charge traps in polymers with element-containing nanostructures on the surface. In: Proceedings of the International Conference "Thin films and nanostructures".
- (2004): Electret state stability in polymers with modified surface. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 4, no. 8, pp. 122-134.
- (2004): Electret phenomenon in polar partially crystalline polymers. In: Proceedings of the International Conference "Dielectrics 2004".
- (2003): Isothermal surface potential decay in polymer-metal structures. In: Proceedings of the International Conference "Polymeric Materials 2003".
- (2003): The nature of electret charge traps in polymers with element-containing nanostructures on the surface. In: Proceedings of the International Conference "INTERMATIC 2003".
- (2003): Method for Determination of Polarization Decay in Polarized Polymer Films. In: Proceedings of the International Conference on Properties and Applications of Properties and Applications of Dielectric Materials (ICPADM-03).
- (2003): Fluoropolymers surface modification in technologies of thermally stable electret production. In: Proceedings of the International Conference "INTERMATIC 2003".
- (2003): The effect of injected charges on dielectric properties of copolymer of vinylidene fluoride with hexafluoropropylene. In: Proceedings of the International Conference "INTERMATIC 2003".
- (2003): Excess charge and polarization interaction in electret structures P(VDF-HFP)-Al. In: Proceedings of the International Conference "Polymeric Materials 2003".



- (2003): Electret state formation and relaxation in polymers. In: Proceedings of the International Conference "Polymeric Materials 2003".
- (2003): Test techniques for diagnostics of polar partially crystalline polymers. In: Proceedings of the International Conference "INTERMATIC 2003".
- (2002): Polymeric electrets in innovative technologies. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 2, no. 4, pp. 118-133.
- (2002): Relaxation properties of polymers with surface modified with molecular layer formation technique. In: Proceedings of the International Conference "Films 2002".
- (2002): Determination of frequency factor and activation energy distributions in copolymer of vinylidene fluoride with hexafluoropropylene. In: Proceedings of the International Conference "Young Scientists 2002".
- (2002): Thermal stability of polarization structures in corona-charged P(VDF-HFP) copolymers films. In: Proceedings of the 11th International Symposium on Electrets (ISE-11). DOI: 10.1109/ISE.2002.1042962.
- (2002): Polarization relaxation kinetics determination by thermally stimulated surface voltage recovery method. In: Proceedings of the International Conference "Physics of semiconductors".
- (2002): The effect of corona discharge treatment on thermal stability of copolymer of vinylidene fluoride with hexafluoropropylene film electrets. In: Proceedings of the International Conference "Surface Chemistry and Nanotechnology".
- (2002): Modeling of isothermal potential decay in polar polymer electrets. In: Proceedings of the International Conference "Young Scientists 2002".
- (2002): Modeling of thermally stimulated surface potential relaxation in film structures containing polar dielectric. In: Proceedings of the International Conference "Films 2002".
- (2002): Technological features of industrial electrets and electret microphones production. In: Proceedings of the International Conference "Films 2002".
- (2001): Novel polymeric materials for electret and piezoelectric transducers. (in Russian). In: Izvestiya RGPU: Scientific Journal, vol. 12, pp. 46-48.
- (2001): Voltage recovery kinetics in electret structures (P(VDF-HFP)) after short-circuiting. In: Proceedings of the International Conference "Polymeric Materials 2001".
- (2001): Electret phenomenon in copolymer of vinylidene fluoride with hexafluoropropylene. In: Proceedings of the International Conference "Polymeric Materials 2001".
- (2000): Measuring complex for investigation of electret state in polar polymers. In: Proceedings of the International Conference " Dielectrics 2000".
- : Electret phenomenon in polymers with modified surface. In: Proceedings of the International Conference "Young Scientists-2006".

