

**Acceleration data acquisition and processing system for structural health monitoring**

**Herranen, Henrik; Kuusik, Alar; Saar, Tõnis; Reidla, Marko; Land, Raul; Märten, Olev; Majak, Jüri** 2014 IEEE International Workshop On Metrology For Aerospace : May 29-30, 2014, Benevento, Italy : proceedings 2014 / p. 244-248 : ill

**Acoustic forward model for guided wave propagation and scattering in a pipe bend**

**Rasgado Moreno, Carlos Omar; Rist, Marek; Land, Raul; Ratassepp, Madis** Sensors 2022 / art. 486

<https://doi.org/10.3390/s22020486> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Acoustic spectrum analysis of genuine and counterfeit euro coins**

**Gavrijaševa, Alina; Märten, Olev; Land, Raul** Elektronika ir elektrotehnika = Electronics and electrical engineering 2015 / p. 54-57 : ill <https://doi.org/10.5755/j01.eee.21.3.10384> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Adaptively undersampled image processing for fast multiline laser detection**

**Mölder, Ago; Märten, Olev; Saar, Tõnis; Land, Raul** 2013 IEEE 8th International Symposium on Intelligent Signal Processing (WISP 2013) : proceedings 2013 / p. 60-64 : ill [CD-ROM]

**Adaptive-rate inductive impedance based coin validation**

**Märten, Olev; Land, Raul; Gavrijaševa, Alina; Mölder, Ago** 2011 IEEE 7th International Symposium on Intelligent Signal Processing (WISP) : Floriana, Malta, September 19-21, 2011 : proceedings 2011 / p. 122-125: ill

**An ASIC for multifrequency bioimpedance analysis**

**Min, Mart; Holmström, Nils; Järverud, Karin; Land, Raul; Märten, Olev; Parve, Toomas** Proceedings of the XI International Conference on Electrical Bio-impedance : June 17-21, 2001, Oslo, Norway 2001 / p. 251-254 : ill

**Automatic detection of real and imaginary parts of electrical impedance with single synchronous demodulation channel**

**Annus, Paul; Priidel, Eiko; Land, Raul; Metshein, Margus; Krivošei, Andrei; Min, Mart; Ratassepp, Madis; Märten, Olev** 8th European Medical and Biological Engineering Conference : Proceedings of the EMBEC 2020, November 29 - December 3, 2020 Portorož, Slovenia 2021 / p. 151-157 [https://doi.org/10.1007/978-3-030-64610-3\\_18](https://doi.org/10.1007/978-3-030-64610-3_18) [Conference Proceedings at Scopus](#) [Article at Scopus](#)

**Availability and variations of cardiac activity in the case of measuring the bioimpedance of wrist**

**Metshein, Margus; Annus, Paul; Land, Raul; Min, Mart; Aabloo, Alvo** 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2018) : proceedings 2018 / 5 p. : ill <https://doi.org/10.1109/I2MTC.2018.8409684>

**Binary signals in impedance spectroscopy**

**Min, Mart; Ojarand, Jaan; Märten, Olev; Paavle, Toivo; Land, Raul; Annus, Paul; Rist, Marek; Reidla, Marko; Parve, Toomas** Conference proceedings : ... Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference 2012 / p. 134-137 : ill

**Bioimpedance analysis of cardiac function using in-vivo experiments, measurements and stimulation**

**Gordon, Rauno; Haapalainen, A.; Kauppinen, P.; Land, Raul** Proceedings of the 13th Nordic-Baltic Conference of BioMedical Engineering NBC'05 : June 13-17, 2005, Umea, Sweden 2005 / p. 309-310

**Bioimpedance monitoring of tissue transplants**

**Min, Mart; Annus, Paul; Land, Raul; Paavle, Toivo; Haldre, Eero; Ruus, Rein** Proceedings of the 24th IEEE Instrumentation and Measurement Technology Conference IMTC 2007 : Warsaw, Poland, May 1-3, 2007 2007 / [4] p

**Bioimpedance monitoring with improved accuracy using three-level stimulus**

**Paavle, Toivo; Annus, Paul; Kuusik, Alar; Land, Raul; Min, Mart** Proceedings of European Conference on Circuit Theory and Design 2007 (ECCTD'07) : Seville, Spain, August 26-30, 2007 2007 / p. 412-415

**Bioimpedance spectro-tomography system using binary multifrequency excitation [Online resource]**

**Min, Mart; Lehti-Polajärvi, M.; Hyttinen, Jari; Rist, Marek; Land, Raul; Annus, Paul** International journal of bioelectromagnetism Proceedings of the 11th International Conference on Bioelectromagnetism : 23-25 May 2018, Aachen, Germany 2018 / p. 76-79 : ill <http://www.ijbem.org/> <https://publications.rwth-aachen.de/record/723893/files/723893.pdf>

**Broadband excitation for short-time impedance spectroscopy**

**Min, Mart; Pliquet, Uwe; Nacke, T.; Barthel, A.; Annus, Paul; Land, Raul** Physiological measurement 2008 / 6, p. S185-S192 : ill

**Broadband spectroscopy of a dynamic impedance**

**Min, Mart; Land, Raul; Paavle, Toivo; Parve, Toomas; Annus, Paul** Journal of physics : conference series 2010 / 1, p. 012109

**Broadband spectroscopy of dynamic impedances with short chirp pulses**

**Min, Mart; Land, Raul; Paavle, Toivo; Parve, Toomas; Annus, Paul; Trebbels, Dennis** Physiological measurement 2011 / p. 945-958 : ill

### Chip design for microfluidic bioimpedance measurement

Giannitsis, Athanasios; Cahill, Brian; **Land, Raul**; Gastrock, Gunter; Pliquett, Uwe; Nacke, T.; **Min, Mart**; Beckmann, Dieter  
Tagungsband : Technische Systeme für die Lebenswissenschaften : 14. Heiligenstädter Kolloquium : Heiligenstadt (Germany), 22.9-24.9.2008 2008 / p. 423-432

### Chirp pulse excitation in the impedance spectroscopy of dynamic subjects - signal modelling in time and frequency domain

**Min, Mart; Land, Raul; Annus, Paul; Ojarand, Jaan** Lecture notes on impedance spectroscopy : measurement, modeling and applications. Vol. 1 2011 / p. 79-82 <https://www.taylorfrancis.com/chapters/edit/10.1201/b11339-17/chirp-pulse-excitation-impedance-spectroscopy-dynamic-subjects%E2%80%94signal-modelling-time-frequency-domain-min-land-annus-ojarand>

### Chirp signals in impedance spectroscopy

**Min, Mart; Märten, Olev; Land, Raul** Book of abstracts : 16th International Conference on Electrical Bio-Impedance : 17th Conference on Electrical Impedance Tomography : ICEBI and EIT Stockholm, 19-23 June 2016 2016 / p. 72

### Chirp-based piezo-impedance measurement

**Saar, Tõnis; Reidla, Marko; Märten, Olev; Land, Raul; Min, Mart; Herranen, Henrik** Proceedings : WISP'2013, 8th IEEE International Symposium on Intelligent Signal Processing 2013 / [4] p. : ill <https://ieeexplore.ieee.org/document/6657487>

### The class of test signals for dynamic testing of AD converters

**Land, Raul** The 7th Biennial Conference on Electronics and Microsystem Technology "Baltic Electronics Conference" : BEC 2000 : October 8 - 11, 2000, Tallinn, Estonia : conference proceedings 2000 / p. 127-128 : ill

### Coin recognition using line scan camera

**Gavrijaševa, Alina; Märten, Olev; Land, Raul; Reidla, Marko** BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 161-164 : ill

### Coin validation by electromagnetic, acoustic and visual features = Mündi valideerimine elektromagnetiliste, akustiliste ja visuaalsete tunnuste järgi

**Gavrijaševa, Alina** 2015 <https://digi.lib.ttu.ee/i/?2408> [https://www.ester.ee/record=b4480613\\*est](https://www.ester.ee/record=b4480613*est)

### Comparative characteristics of diffusion-welded high-voltage stacks and connected in series Schottky diodes

**Sleptšuk, Natalja; Korolkov, Oleg; Land, Raul; Toompuu, Jana; Annus, Paul; Rang, Toomas** BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 39-42 : ill [http://www.ester.ee/record=b2150914\\*est](http://www.ester.ee/record=b2150914*est)

### Comparative investigation of the graphene-on-silicon carbide and CVD graphene as a basis for biosensor application

**Sleptšuk, Natalja; Lebedev, Alexander A.; Elisayev, Ilya; Korolkov, Oleg; Toompuu, Jana; Land, Raul; Mikli, Valdek; Zubov, Alexander; Rang, Toomas** Modern Materials and Manufacturing 2019 : 12th International DAAAM Baltic Conference and 27th International Baltic Conference BALTMATRIB 2019. Selected, peer reviewed papers from the conference Modern Materials and Manufacturing 2019 (MMM 2019), April 24-26, 2019, Tallinn, Estonia 2019 / p. 185-190 : ill [https://www.ester.ee/record=b5235278\\*est](https://www.ester.ee/record=b5235278*est) <https://www.scientific.net/KEM.799.185> <https://doi.org/10.4028/www.scientific.net/KEM.799.185> Conference proceeding at Scopus Article at Scopus

### Comparative measurement of cardiac cycle by means of different sensors

**Priidel, Eiko; Land, Raul; Sinivee, Veljo; Annus, Paul; Min, Mart** 2017 Electronics : proceedings of the 21st International Conference : June 19th-21st, 2017, Palanga, Lithuania 2017 / [5] p. : ill <https://doi.org/10.1109/ELECTRONICS.2017.7995221>

### Comparison of rectangular wave excitations in broad band impedance spectroscopy for microfluidic applications

**Min, Mart; Giannitsis, Athanasios; Land, Raul; Cahill, Brian; Pliquett, Uwe; Nacke, T.; Frense, Dieter; Gastrock, Gunter; Beckmann, Dieter** World Congress on Medical Physics and Biomedical Engineering : September 7-12, 2009, Munich, Germany 2009 / p. 85-88 [https://link.springer.com/chapter/10.1007/978-3-642-03885-3\\_24](https://link.springer.com/chapter/10.1007/978-3-642-03885-3_24)

### Comparison of spectrally sparse excitation signals for fast bioimpedance spectroscopy : in the context of cytometry

**Ojarand, Jaan; Land, Raul; Min, Mart** MeMeA 2012 IEEE International Symposium on Medical Measurements and Applications : proceedings : May 18-19, 2012, Budapest, Hungary 2012 / 5 p. : ill <https://ieeexplore.ieee.org/document/6226631>

### Comparison of the carbon nanofiber-/fiber- and silicone-based electrodes for bioimpedance measurements

**Kõiv, Hip; Pesti, Ksenija; Min, Mart; Land, Raul; Must, Indrek** IEEE transactions on instrumentation and measurement 2020 / p. 1455-1463 <https://doi.org/10.1109/TIM.2019.2962297> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

### Constant phase element response of impedance spectra of high vacuum evaporated CuIn3Se5 photoabsorber layers [Electronic resource]

**Laes, Kristjan; Bereznev, Sergei; Land, Raul; Öpik, Andres** International Materials Research Congress IMRC XIX, Cancun,

**Contactless sensing of the conductivity of aqueous droplets in segmented flow**

Cahill, Brian; **Land, Raul**; Nacke, T.; **Min, Mart**; Beckmann, Dieter Sensors and actuators B : chemical 2011 / p. 286-293 : ill  
<https://www.sciencedirect.com/science/article/abs/pii/S0925400511006368>

**Correlation between electrical bioimpedance and pressure waveform in radial artery and in mechanical pulsating pipe system**

**Metshein, Margus; Annus, Paul; Land, Raul; Rist, Marek; Min, Mart; Märten, Olev** 2020 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2020), May 25-29, 2020, Dubrovnik, Croatia : proceedings 2020  
<https://doi.org/10.1109/I2MTC43012.2020.9128972>

**Current source considerations for broadband bioimpedance spectroscopy**

**Annus, Paul; Min, Mart; Rist, Marek; Ojarand, Jaan; Land, Raul** Lecture notes on impedance spectroscopy : measurement, modeling and applications. Vol. 2 2012 / p. 63-73

**Design concepts of lock-in signal converters for measurement of dynamic electrical bioimpedance**

**Parve, Toomas; Holmström, Nils; Land, Raul; Min, Mart; Noren, Kjell** Proceedings of the 2nd European Medical & Biological Engineering Conference : EMBEC'02, December 4-8, 2002, Vienna, Austria. 2 2002 / p. 1456-1457

**Detection of cracks in a sawblade by eddy current measurements**

**Märten, Olev; Land, Raul; Metshein, Margus; Abdullayev, Anar; Vennikas, Henri; Le Moullec, Yannick** 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 6 p <https://doi.org/10.1109/BEC61458.2024.10737981> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Detection of surface defects in metals : a case study**

**Märten, Olev; Land, Raul; Metshein, Margus; Abdullayev, Anar; Vennikas, Henri; Le Moullec, Yannick; Rist, Marek** Proceedings of the Estonian Academy of Sciences 2025

**Development and analysis of carbon-based dry-contact electrodes for bioimpedance measurements = Süsinikmaterjalil põhinevate kuivkontakt-elektroodide arendus ja analüüs bioimpedantsi mõõtmiseks**

**Kõiv, Hip** 2023 <https://doi.org/10.23658/taltech.1/2023> <https://digikogu.taltech.ee/et/Item/f2775738-652e-4b4e-ba34-7a61fab78867>  
[https://www.ester.ee/record=b5528441\\*est](https://www.ester.ee/record=b5528441*est)

**Development of experimental set-up for the investigation of photoelectric response of the pyroelectric crystal to short pulses of the Hg(Xe) lamp**

**Podgurski, Vitali; Land, Raul; Bogatov, Andrei; Vlasov, A.; Nagorny, A.; Tiik, K.** Journal of optoelectronics and advanced materials 2024 / p. 243 - 245 <https://joam.inoe.ro/articles/development-of-experimental-set-up-for-the-investigation-of-photoelectric-response-of-the-pyroelectric-crystal-to-short-pulses-of-the-hgxe-lamp/fulltext> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Device and method for monitoring bioimpedance of tissue transplants**

**Annus, Paul; Haldre, Eero; Kuusik, Alar; Land, Raul; Min, Mart; Paavle, Toivo; Parve, Toomas** Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK teise aastakonverentsi artiklite kogumik : 11.-12. mai 2007, Viinistu kunstimuuseum 2007 / lk. 140-143 : ill

**Digital multichannel bioimpedance analyser : signal processing approaches**

**Ronk, Ants; Annus, Paul; Kuusik, Alar; Land, Raul; Märten, Olev** Proceedings of the 3rd European Medical & Biological Engineering Conference EMBEC'05 : November 20-25, 2005, Prague, Czech Republic 2005 / [4] p  
[https://www.researchgate.net/publication/224062830\\_A\\_Digital\\_Multichannel\\_Bioimpedance\\_Analyser\\_Signal\\_Processing\\_Task\\_and\\_its\\_Solution](https://www.researchgate.net/publication/224062830_A_Digital_Multichannel_Bioimpedance_Analyser_Signal_Processing_Task_and_its_Solution)

**A digital multichannel bioimpedance analyser : signal processing task and its solution**

**Annus, Paul; Kuusik, Alar; Land, Raul; Märten, Olev; Ronk, Ants** Proc. of the IEEE Instrumentation and Measurement Technology Conference : IMTC 2006 : Sorrento, Italy, April 24-27, 2006 2006 / p. 1405-1409 <https://doi.org/10.1109/IMTC.2006.328596>

**Distributed data acquisition and handling in automotive control systems**

**Land, Raul** BEC'96 : the 5th Biennial Baltic Electronics Conference, October 7-11, 1996, Tallinn, Estonia : proceedings 1996 / p. 101-104

**A DSP-based multichannel EBI measurement device**

**Abdullayev, Anar; Rist, Marek; Krivošei, Andrei; Metshein, Margus; Land, Raul; Märten, Olev** 2024 IEEE International Instrumentation and Measurement Technology Conference (I2MTC) : proceedings 2024  
<https://doi.org/10.1109/I2MTC60896.2024.10560714>

**Dynamic volume measurement of right ventricle using impedance spectroscopy and multi electrode intraventricular catheter**

**Kink, Andres; Rist, Marek; Land, Raul; Kõiv, Hip; Min, Mart** International Workshop on Impedance Spectroscopy : IWIS 2016 :

**Eddy current corrosion measurement of steel**

**Märtens, Olev; Land, Raul; Min, Mart; Rist, Marek;** Ferenets, Marju; Käsper, Andres International Workshop on Impedance Spectroscopy : IWIS 2016 : September 26-28, 2016, Technische Universität Chemnitz, Germany : abstract book 2016 / p. 40-41 : ill

**Eddy current corrosion measurement of steel**

**Märtens, Olev; Land, Raul; Min, Mart; Rist, Marek;** Ferenets, Marju; Käsper, Andres Impedance spectroscopy : advanced applications : battery research, bioimpedance, system design 2018 / p. 125-134 : ill <https://doi.org/10.1515/9783110558920-012>

**Eddy current validation of Euro-coins**

**Gordon, Rauno; Märtens, Olev; Land, Raul; Min, Mart; Rist, Marek; Gavrijaševa, Alina; Pokatilov, Andrei;** Kolyshkin, Andrei Lecture notes on impedance spectroscopy : measurement, modeling and applications. Vol. 3 2012 / p. 47-63 : ill

**Effective algorithms for dynamic quality tests of A/D converters using step-wise approximated multi-cycle sine wave**

**Land, Raul** Proceedings of the 6th European Workshop on ACD Modelling and Testing : 13-14 Sept., 2001 : Lisbon, Portugal 2001 / p. 96-100 <https://www.imeko.org/index.php/proceedings/5494-effective-algorithms-for-dynamic-quality-tests-of-a-d-converters-using-step-wise-approximated-multi-cycle-sine-wave>

**Electrochemical impedance spectroscopy analysis of immunoglobulin G in patients with gastric cancer**

**Sergejev, Kirill; Land, Raul;** Klaamas, Kersti; Kurtenkov, Oleg BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 189-192 : ill

**Electrowetting as a tool for droplet actuation : electrode design and simulation**

Giannitsis, Athanasios; Cahill, Brian; **Land, Raul;** Gastrock, G.; Pliquet, Uwe; Nacke, T.; **Min, Mart;** Beckmann, Dieter Tagungsband : Technische Systeme für die Lebenswissenschaften : 14. Heiligenstädter Kolloquium : Heiligenstadt (Germany), 22.9-24.9.2008 2008 / p. 433-442

**Energy efficient pulses for deep brain stimulation**

**Gordon, Rauno; Min, Mart; Land, Raul** International Workshop on Impedance Spectroscopy : IWIS 2016 : September 26-28, 2016, Technische Universität Chemnitz, Germany : abstract book 2016 / p. 19-20 : ill

**An energy efficient wearable tissue monitor**

Annus, A.; **Kuusik, Alar; Land, Raul; Haldre, Eero; Min, Mart; Parve, Toomas; Poola, Gustav** 13th International Conference on Electrical Bioimpedance and 8th Conference on Electrical Impedance Tomography 2007 : ICEBIT 2007 : August 29th - September 2nd 2007, Graz, Austria 2007 / p. 240-243 [https://link.springer.com/chapter/10.1007/978-3-540-73841-1\\_64](https://link.springer.com/chapter/10.1007/978-3-540-73841-1_64)

**Energy-efficient pulses for deep brain stimulation**

**Gordon, Rauno; Min, Mart; Land, Raul** Impedance spectroscopy : advanced applications : battery research, bioimpedance, system design 2018 / p. 153-160 : ill <https://doi.org/10.1515/9783110558920-015>

**Experimental modal analysis of maritime composite panel**

**Gavrijaševa, Alina; Märtens, Olev; Land, Raul; Saar, Tõnis; Herranen, Henrik; Majak, Jüri;** Reidla, Marko; **Kuusik, Alar** BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 143-146 : ill [http://www.ester.ee/record=b2150914\\*est](http://www.ester.ee/record=b2150914*est)

**Extraction of the variable width laser line**

**Mölder, Ago; Märtens, Olev; Saar, Tõnis; Land, Raul** BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 157-160 : ill

**Fast impedance spectroscopy of piezosensors for structural health monitoring**

**Märtens, Olev; Saar, Tõnis; Min, Mart; Land, Raul; Reidla, Marko** Elektronika ir elektrotehnika = Electronics and electrical engineering 2010 / 7, p. 31-34 : ill

**Fast precise eddy current measurement of metals**

**Märtens, Olev; Land, Raul; Min, Mart; Rist, Marek; Annus, Paul; Pokatilov, Andrei** 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2018) : proceedings 2018 / 5 p. : ill <https://doi.org/10.1109/I2MTC.2018.8409781>

**Fat prediction in minced meat with low-cost BIA spectrometer**

**Objartel, Mart; Tamm, Martti; Kraft, Kadri; Annus, Paul; Land, Raul** Book of abstracts : 16th International Conference on Electrical Bio-Impedance : 17th Conference on Electrical Impedance Tomography : ICEBIT and EIT Stockholm, 19-23 June 2016 2016 / p. 38

**Feasibility study : a DM3730-based data acquisition and processing solution**

**Mölder, Ago; Reidla, Marko; Märtens, Olev; Land, Raul** EDERC 2012 : proceedings of the 5th European DSP in Education &

**Flexible data acquisition system with custom front-end for ultrasonic NDT research**

**Peng, Chengxiang; Ratassepp, Madis; Annus, Paul; Rist, Marek; Land, Raul; Märtens, Olev** 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 4 p <https://doi.org/10.1109/BEC61458.2024.10737989> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Fractional Fourier transform-based signal separation for ultrasonic guided wave inspection of plates**

**Peng, Chengxiang; Annus, Paul; Rist, Marek; Land, Raul; Ratassepp, Madis** Sensors 2024 / art. 7564  
<https://doi.org/10.3390/s24237564> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**A frequency modulation in the phase-lock loop**

**Land, Raul** Tallinna Tehnikaülikooli Toimetised 1990 / lk. 19-26

**Frequency-optimized rectangular pulses for deep brain stimulation**

**Gordon, Rauno; Min, Mart; Land, Raul** International journal of bioelectromagnetism 2015 / p. 13-19 : ill

**Frequency-optimized rectangular pulses for deep brain stimulation**

**Gordon, Rauno; Min, Mart; Land, Raul** The 10th International Conference on Bioelectromagnetism : proceedings 2015 / [2] p. : ill

**Front-end electronics for impedimetric microfluidic devices**

**Ojarand, Jaan; Giannitsis, Athanasios; Min, Mart; Land, Raul** Bioelectronics, Biomedical, and Bioinspired Systems V; and Nanotechnology V : 18-20 April 2011, Prague, Czech Republic 2011 / p. 80680R-1 - 80680R-15 : ill  
<https://www.spiedigitallibrary.org/conference-proceedings-of-spie/8068/1/Front-end-electronics-for-impedimetric-microfluidic-devices/10.1117/12.886553.full>

**Guided wave tomography of pipe bends based on full waveform inversion**

**Rasgado Moreno, Carlos Omar; Rist, Marek; Land, Raul; Ratassepp, Madis** Ultrasonics 2025 / art. 107560  
<https://doi.org/10.1016/j.ultras.2024.107560>

**High voltage diffusionl welded stacks on the basis of SiC Schottky diodes**

**Korolkov, Oleg; Sleptšuk, Natalja; Annus, Paul; Land, Raul; Rang, Toomas** ICSRM 2015 : program guide 2015 / p. 73

**High-accuracy eddy current measurements of metals**

**Märtens, Olev; Land, Raul; Rist, Marek; Pokatilov, Andrei** 2014 IEEE International Workshop On Metrology For Aerospace : May 29-30, 2014, Benevento, Italy : proceedings 2014 / p. 155-160 : ill

**High-voltage diffusionl welded stacks on the basis of SiC Schottky diodes**

**Korolkov, Oleg; Sleptšuk, Natalja; Annus, Paul; Land, Raul; Rang, Toomas** Silicon carbide and related materials 2015 (ICSRM 2015) : selected, peer reviewed papers from the 16th International Conference on Silicon Carbide and Related Materials, October 4-9, 2015, Giardini Naxos, Italy 2016 / p. 790-794 : ill <https://doi.org/10.4028/www.scientific.net/MSF.858.790> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

**How many frequencies to use in electrical bioimpedance measurement?**

**Ojarand, Jaan; Land, Raul; Min, Mart; Rist, Marek** International Workshop on Impedance Spectroscopy : IWIS 2016 : September 26-28, 2016, Technische Universität Chemnitz, Germany : abstract book 2016 / p. 24-25 : ill

**How many frequencies to use in electrical bioimpedance measurements**

**Ojarand, Jaan; Land, Raul; Min, Mart; Rist, Marek** Impedance spectroscopy : advanced applications : battery research, bioimpedance, system design 2018 / p. 161-168 : ill <http://doi.org/10.1515/9783110558920-016>

**Impedance measurement solution based on the high time resolution DSP**

**Märtens, Olev; Land, Raul; Min, Mart; Annus, Paul; Rist, Marek** 2020 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2020), May 25-29, 2020, Dubrovnik, Croatia : proceedings 2020  
<https://doi.org/10.1109/I2MTC43012.2020.9128843>

**Improved impedance analyzer with binary excitation signals**

**Märtens, Olev; Land, Raul; Min, Mart; Annus, Paul; Rist, Marek; Reidla, Marko** 2015 IEEE 9th International Symposium on Intelligent Signal Processing (WISP 2015) : Siena, Italy, 15-17 May 2015 : [proceedings] 2015 / p. 25-29 : ill

**Improvement of lock-in signal processing for applications in measurement of electrical bioimpedance**

**Parve, Toomas; Land, Raul** Proceedings of the Estonian Academy of Sciences. Engineering 2004 / 3, p. 185-197

**Improvement of switching lock-in signal conversion in bioimpedance analysers**

**Parve, Toomas; Land, Raul; Min, Mart; Poola, Gustav** BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference :

**Improvements in design of spectra of multisine and binary excitation signals for multi-frequency bioimpedance measurement**

**Land, Raul;** Cahill, Brian; **Parve, Toomas; Annus, Paul; Min, Mart** 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society : EMBS : Boston, Massachusetts USA, August 30 - September 3, 2011 2011 / p. 4038-4041 : ill  
<https://ieeexplore.ieee.org/document/6091003>

**Improving coplanar electrodes for moving water droplets**

Giannitsis, Athanasios; Cahill, Brian; Pliquet, Uwe; Gastrock, Gunter; **Land, Raul;** Nacke, T.; **Min, Mart;** Beckmann, Dieter  
Proceedings of the 1st European Conference on Microfluidics - Microfluidics 2008 : Bologna, Italy December 10-12, 2008 2008 / [10]  
p [https://www.academia.edu/26174470/Improving\\_coplanar\\_electrodes\\_for\\_moving\\_water\\_droplets](https://www.academia.edu/26174470/Improving_coplanar_electrodes_for_moving_water_droplets)

**Induction brazing of cermets to steel and eddy current testing of joint quality**

**Laansoo, Andres; Kübarsepp, Jakob; Surženkov, Andrei; Land, Raul; Märtens, Olev; Viljus, Mart** Welding in the World 2020 / p. 563-571 <https://doi.org/10.1007/s40194-020-00854-x> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Investigation of cost-effective carbon nanofiber/carbon fiber and silicone polymer composite material for wearable bioimpedance device**

**Kõiv, Hip; Pesti, Ksenija; Min, Mart; Land, Raul** 2019 IEEE Sensors Applications Symposium (SAS 2019), Sophia Antipolis, France, 11-13 March, 2019 : proceedings 2019 / 6 p <https://doi.org/10.1109/SAS.2019.8706026>

**Investigation of the graphene-on-silicon-carbide and CVD graphene as a basis for bioimpedance sensor applications : poster**

**Sleptšuk, Natalja; Land, Raul; Toompuu, Jana; Lebedev, Alexander A.; Davydov, Valery; Eliseyev, Ilya; Kalinina, Evgenia; Korolkov, Oleg; Rang, Toomas** ePosters 2018 / 1 p.: ill <https://cdn.technologynetworks.com/ep/pdfs/natalja-sleptsuk-a-raul-land-a-jana-toompuu-a-alexander-lebedev-b-valery-davydov-b-ilya-eliseyev-b.pdf>

**Laser line detection with sub-pixel accuracy**

**Mölder, Ago; Märtens, Olev; Saar, Tõnis; Land, Raul** Elektronika ir elektrotehnika = Electronics and electrical engineering 2014 / p. 132-135 : ill <https://doi.org/10.5755/j01.eee.20.5.7114> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Laser scanner calibration dependency on the line detection method**

**Mölder, Ago; Märtens, Olev; Saar, Tõnis; Land, Raul** Elektronika ir elektrotehnika = Electronics and electrical engineering 2015 / p. 66-69 : ill <https://doi.org/10.5755/j01.eee.21.6.13765> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**A lock-in distortion analyser**

**Land, Raul; Min, Mart; Männama, Vello; Parve, Toomas** 9th International Symposium on Electrical Instruments in Industry, September 8-9, 1997, Glasgow, Scotland : proceedings 1997 / p. 149-152

**Lock-in integration for detection of tiny bioimpedance variations [Online resource]**

**Priidel, Eiko; Annus, Paul; Metshein, Margus; Land, Raul; Märtens, Olev; Min, Mart** BEC 2018 : 2018 16th Biennial Baltic Electronics Conference (BEC) : proceedings of the 16th Biennial Baltic Electronics Conference, October 8-10, 2018 2018 / 4 p. : ill  
<https://doi.org/10.1109/BEC.2018.8600965>

**Magnetic induction sensor for the respiration monitoring**

Ojarand, Jaan; Pille, Siim; **Min, Mart; Land, Raul; Oleitsuk, J.** The 10th International Conference on Bioelectromagnetism : proceedings 2015 / [4] p. : ill

**Measurement of intracardiac bioimpedance in rate adaptive pacemakers**

**Kuusik, Alar; Land, Raul; Min, Mart; Parve, Toomas; Poola, Gustav** Proceedings of the 31. International Congress on Electrophysiology : June 27-July 1, 2004, Kyoto, Japan 2004 / [4] p

**Measurement of intracardiac bioimpedance in rate adaptive pacemakers**

**Kuusik, Alar; Land, Raul; Min, Mart; Parve, Toomas; Poola, Gustav** Proceedings of the 31st International Congress of Electrophysiology "Advances in Electrophysiology 2004" : 27 June - 1 July, 2004, Singapore 2005 / p. 738-742

**A method of intra-ventricular bioimpedance spectroscopy to estimate the dynamic volume of right ventricle**

**Kink, Andres; Rist, Marek; Land, Raul; Kõiv, Hip; Min, Mart** Impedance spectroscopy : advanced applications : battery research, bioimpedance, system design 2018 / p. 169-176 : ill <https://doi.org/10.1515/9783110558920-017>

**Methods for detection of bioimpedance variations in resource constrained environments**

**Priidel, Eiko; Annus, Paul; Krivošei, Andrei; Rist, Marek; Land, Raul; Min, Mart; Märtens, Olev** Sensors 2020 / art. 1363, 16 p. :

### **Mixed signal testing at the Electronics Testlab, TTU**

**Land, Raul** Electronics Design and Test : international user forum : compendium of papers : Tallinn Technical University, 11. October 2000, Estonia 2000 / [3] p. : ill

### **Modification of pulse wave signals in electrical bioimpedance analyzer for implantable medical devices**

**Min, Mart; Kink, Andres; Land, Raul; Parve, Toomas; Rätsep, Indrek** Proceedings of the 26. Annual International Conference of the IEEE EMBS : September 1-5, 2004, San Francisco, California, USA 2004 / p. 2263-2266  
<https://pubmed.ncbi.nlm.nih.gov/17272178/>

### **A modular 6LoWPAN-based wireless sensor body area network for health-monitoring applications**

**Le Moullec, Yannick; Lecat, Yoann; Annus, Paul; Land, Raul; Kuusik, Alar; Reidla, Marko; Hollstein, Thomas; Reinsalu, Uljana; Tammemäe, Kalle; Ruberg, Priit** APSIPA ASC 2014 : Asia-Pacific Signal and Information Processing Association Annual Summit and Conference 2014 : December 9-12, 2014, Siem Reap, city of Angkor Wat, Cambodia 2014 / [4] p. : ill

### **Modular system for fast impedance spectrum analysis of biomedical objects**

**Rist, Marek; Reidla, Marko; Märten, Olev; Land, Raul; Min, Mart; Parve, Toomas; Annus, Paul** XVth International Conference on Electrical Bio-Impedance (ICEBI) and XIVth Conference on Electrical Impedance Tomography (EIT) : 22-25 April 2013, Heilbad Heiligenstadt : abstracts 2013 / p. 151 : ill

### **Modular system for spectral analysis of time-variant impedances**

**Rist, Marek; Reidla, Marko; Land, Raul; Parve, Toomas; Märten, Olev; Annus, Paul; Ojarand, Jaan; Min, Mart** 6th European Conference of the International Federation for Medical and Biological Engineering : MBEC 2014, 7-11 September 2014, Dubrovnik, Croatia 2015 / p. 858-861 : ill [https://doi.org/10.1007/978-3-319-11128-5\\_213](https://doi.org/10.1007/978-3-319-11128-5_213) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Multi-frequency and multi-channel bio-impedance measurement solution [Electronic resource]**

**Märten, Olev; Min, Mart; Land, Raul; Annus, Paul** Proceedings of 7th Nordic Signal Processing Symposium (NORSIG 2006) : Reykjavik, Iceland, June 7-9, 2006 2006 / [4] p. [CD-ROM] <https://ieeexplore.ieee.org/document/4052217>

### **Multisine and binary multifrequency waveforms in impedance spectrum measurement : a comparative study**

**Annus, Paul; Min, Mart; Ojarand, Jaan; Paavle, Toivo; Land, Raul; Ellervee, Peeter; Parve, Toomas** 5th European Conference of the International Federation for Medical and Biological Engineering : 14-18 September 2011, Budapest, Hungary 2012 / p. 1265-1268 [https://link.springer.com/chapter/10.1007/978-3-642-23508-5\\_327](https://link.springer.com/chapter/10.1007/978-3-642-23508-5_327)

### **New synchronous measurement technique for intracardiac impedance analysis**

**Kuusik, Alar; Land, Raul; Min, Mart; Parve, Toomas** International journal of bioelectromagnetism 2003 / 1, Advances in Electrocardiology : proceedings of the XXX International Congress of Electrocardiology : ICE2003 : June 11-14, 2003, Helsinki, Finland, p. 23-24

### **Nonlinear chirp pulse excitation for the fast impedance spectroscopy**

**Ojarand, Jaan; Annus, Paul; Land, Raul; Parve, Toomas; Min, Mart** Elektronika ir elektrotehnika = Electronics and electrical engineering 2010 / 4, p. 73-76 : ill  
[https://www.researchgate.net/publication/268367878\\_Nonlinear\\_Chirp\\_Pulse\\_Excitation\\_for\\_the\\_Fast\\_Impedance\\_Spectroscopy](https://www.researchgate.net/publication/268367878_Nonlinear_Chirp_Pulse_Excitation_for_the_Fast_Impedance_Spectroscopy)

### **Nonuniform sampling and demodulation for wideband multi-frequency bioimpedance measurements**

**Min, Mart; Bilinskis, Ivars; Artyukh, Y.; Annus, Paul; Land, Raul; Märten, Olev** Proceedings of the "2007 Workshop on digital Alias-free Signal Processing" (WDASP'07) : 17 April 2007, London, UK 2007 / [7] p

### **Notes on applicability of the impedance spectroscopy for characterization of materials and substances**

**Annus, Paul; Land, Raul; Min, Mart; Reidla, Marko; Rist, Marek** I2MTC 2016 : 2016 IEEE International Instrumentation and Measurement Technology Conference : May 23-26, 2016, Taipei International Convention Center, Taipei, Taiwan : proceedings 2016 / p. 1052-1057 : ill <https://doi.org/10.1109/I2MTC.2016.7520513> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Number of effective bits for smart sensor as ADC with non-electrical input**

**Land, Raul** Proceedings of the 10th IMEKO TC-4 International Symposium on Development in Digital Measuring Instrumentation and 3rd Workshop on ADC Modelling and Testing, 17-18 Sept. 1998, Naples, Italy. Vol. 1 1998 / p. 434-438

### **On-Desk Model-Based Study for Evaluating the Effect of Squeezing the Arteries in the Forearm on the Bioimpedance and Pressure of Blood**

**Metshein, Margus; Annus, Paul; Land, Raul; Rist, Marek; Min, Mart; Lotamõis, Kristina; Märten, Olev** Journal of sensors 2023 / art. 5710835 <https://doi.org/10.1155/2023/5710835> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Optimization of electrowetting electrodes : analysis of the leakage current characteristics of various dielectric layers**

**Cahill, Brian; Giannitsis, Athanasios; Land, Raul; Min, Mart** BEC 2008 : 2008 International Biennial Baltic Electronics Conference :

proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 79-82 : ill

### **Phase and frequency stability of PLL systems**

**Land, Raul** Automation, simulation & measurement : ASM'91 : 3rd biennial conference, Tallinn, October 7-11, 1991. Section A. Section M / Tallinn Technical University 1992 / p. 100-107: ill

### **Phase-increment sampling in chirp signal based impedance measurements**

**Märtens, Olev; Min, Mart; Land, Raul; Ojarand, Jaan; Rist, Marek** Sampling Theory and Applications 2017 : 12th International Conference : Tallinn, Estonia, July 3-7 : program and abstracts 2017 / p. 65

### **Phase-increment sampling in chirp signal based impedance measurements [Electronic resource]**

**Märtens, Olev; Min, Mart; Land, Raul; Ojarand, Jaan; Rist, Marek** 2017 International Conference on Sampling Theory and Applications (SampTA) : 12th International Conference : Tallinn, Estonia, July 3-7 : [abstracts] 2017 / p. 66. [USB]

### **Phase-increment sampling in chirp signal based impedance measurements [Online resource]**

**Märtens, Olev; Min, Mart; Land, Raul; Ojarand, Jaan; Rist, Marek** 2017 International Conference on Sampling Theory and Applications (SampTA) : 12th International Conference : Tallinn, Estonia, July 3-7 : [proceedings] 2017 / p. 604-608 : ill  
<https://doi.org/10.1109/SAMPTA.2017.8024393>

### **Photoplethysmography as an alternative to impedance cardiography-based hemodynamic feature point detection**

**Metshein, Margus; Annus, Paul; Abdullayev, Anar; Krivošei, Andrei; Land, Raul; Märtens, Olev** 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 5 p <https://doi.org/10.1109/BEC61458.2024.10737936> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Piccolo-stick and pcb-coil based simple coin validator**

**Reidla, Marko; Märtens, Olev; Land, Raul; Rist, Marek** EDERC 2012 : proceedings of the 5th European DSP in Education & Research Conference : 13-14 September 2012, Amsterdam, The Netherlands 2012 / p. 81-84  
<https://ieeexplore.ieee.org/document/6532230>

### **Piecewise linearly approximated sine wave for dynamic quality tests of A/D converters**

**Land, Raul** Proceedings of the Estonian Academy of Sciences. Engineering 2000 / 2, p. 113-119 : ill  
[https://artiklid.einet.ee/record=b1004041\\*est](https://artiklid.einet.ee/record=b1004041*est)

### **PLL-based extraction of the cardiac component from the bio-impedance signal**

**Märtens, Olev; Min, Mart; Annus, Paul; Land, Raul; Krivošei, Andrei; Metshein, Margus** 2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC 2018) : proceedings 2018 / 6 p. : ill <https://doi.org/10.1109/I2MTC.2018.8409848>

### **Precise eddy current measurements : improving accuracy of determining of electrical conductivity of metal plates**

**Märtens, Olev; Land, Raul; Gordon, Rauno; Min, Mart; Rist, Marek; Pokatilov, Andrei** Lecture notes on impedance spectroscopy : measurement, modeling and applications. Vol. 4 2014 / p. 109-115 : ill

### **Process instrumentation for impedance spectroscopy - a modular concept**

Nacke, T.; **Land, Raul; Barthel, A.** BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 235-238

### **PWM based lock-in bioimpedance measurement unit for implantable medical devices**

**Kuhlberg, Aivo; Land, Raul; Min, Mart; Parve, Toomas** Proceedings of the XVII IMEKO World Congress : June 22-27, 2003, Dubrovnik, Croatia 2003 / p. 1710-1713 : ill

### **QUADRA impedance spectroscopy devices for dynamic measurements of bio-objects**

**Rist, Marek; Reidla, Marko; Märtens, Olev; Min, Mart; Annus, Paul; Land, Raul; Parve, Toomas** 34th Annual International IEEE EMBS Conference : August 28 - September 1, 2012, Hilton Bayfront Hotel in San Diego, California, USA : abstracts 2012 / p. 557 : ill

### **Quantization of the response signal differences for the electrical bioimpedance measurement**

**Annus, Paul; Land, Raul; Priidel, Eiko; Metshein, Margus; Min, Mart; Märtens, Olev** EMBEC & NBC 2017 : joint conference of the European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), Tampere, Finland, June 2017 2018 / p. 290-293 : ill [https://doi.org/10.1007/978-981-10-5122-7\\_73](https://doi.org/10.1007/978-981-10-5122-7_73) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Rectangular wave excitation in wideband bioimpedance spectroscopy**

**Min, Mart; Paavle, Toivo; Annus, Paul; Land, Raul** IEEE International Workshop on Medical Measurements and Applications : MeMeA2009 : Cetraro, Italy, May 29-30, 2009 2009 / p. 268-271

### **Reversible electrowetting on silanized silicon nitride**

Cahill, Brian; Giannitsis, Athanasios; **Land, Raul**; Gastrock, Gunter; Pliquet, Uwe; Frense, Dieter; **Min, Mart**; Beckmann, Dieter

Sensors and actuators B. Chemical 2010 / p. 380-386 : ill <https://www.sciencedirect.com/science/article/pii/S092540050800885X>

### **A sampling multichannel bioimpedance analyzer for tissue monitoring**

**Min, Mart; Land, Raul; Märten, Olev; Parve, Toomas; Ronk, Ants** Proc. of the 26. Annual International Conference of the IEEE EMBS : September 1-5, 2004, San Francisco, California, USA 2004 / p. 902-905

### **Scalable impedance spectroscopy : comparative study of sinusoidal and rectangular chirp excitations**

**Min, Mart; Parve, Toomas; Land, Raul; Annus, Paul** Lecture notes on impedance spectroscopy : measurement, modeling and applications. Vol. 2 2012 / p. 33-38

### **Sensor-location-specific joint acquisition of peripheral artery bioimpedance and photoplethysmogram for wearable applications**

**Metshein, Margus; Abdullayev, Anar; Gautier, Antoine; Larras, Benoit; Frappe, Antoine; Cardiff, Barry; Annus, Paul; Land, Raul; Märten, Olev** Sensors 2023 / art. 7111 <https://doi.org/10.3390/s23167111> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **SiC JBS diode symmetrical voltage doubler represented as the diffusion-welded stack**

**Korolkov, Oleg; Land, Raul; Toompuu, Jana; Sleptšuk, Natalja; Rang, Toomas** Silicon carbide and related materials 2017 : ICSCRM 2017 : selected, peer reviewed papers from the 2017 International Conference on Silicon Carbide and related materials, September 17-22, 2017, Washington, DC, USA 2018 / p. 862-865 : ill <https://doi.org/10.4028/www.scientific.net/MSF.924.862> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

### **SIC schottky diode rectifier bridge represented as the diffusion-welded stack**

**Korolkov, Oleg; Kozlovski, Vitali V.; Lebedev, Alexander A.; Land, Raul; Sleptšuk, Natalja; Toompuu, Jana; Rang, Toomas** Silicon Carbide and Related Materials 2016 : selected, peer reviewed papers from the 11th European Conference on Silicon Carbide and Related Materials 2016 (ECSCRM 2016), September 25-29, 2016, Halkidiki, Greece 2017 / p. 697-700 : ill <https://doi.org/10.4028/www.scientific.net/MSF.897.697> [Conference proceedings at Scopus](#) [Article at Scopus](#)

### **SIC schottky diode rectifier bridge represented as the diffusion-welded stack**

**Korolkov, Oleg; Land, Raul; Sleptšuk, Natalja; Toompuu, Jana; Rang, Toomas** 11th European Conference on Silicon Carbide and Related Materials : September 25-29, 2016, Porto Carras Grand Resort, Halkidiki, Greece : [poster session] 2016 / p. 42

### **Signals in bioimpedance measurement : different waveforms for different tasks**

**Min, Mart; Pliquet, Uwe; Nacke, T.; Barthel, A.; Annus, Paul; Land, Raul** 13th International Conference on Electrical Bioimpedance and 8th Conference on Electrical Impedance Tomography 2007 : ICEBI2007 : August 29th - September 2nd 2007, Graz, Austria 2007 / p. 181-184  
[https://www.researchgate.net/publication/226357858\\_Signals\\_in\\_bioimpedance\\_measurement\\_Different\\_waveforms\\_for\\_different\\_tasks](https://www.researchgate.net/publication/226357858_Signals_in_bioimpedance_measurement_Different_waveforms_for_different_tasks)

### **Simple acoustical signature based coin validation**

**Märten, Olev; Gavrijaševa, Alina; Land, Raul; Min, Mart** 2015 IEEE 9th International Symposium on Intelligent Signal Processing (WISP 2015) : Siena, Italy, 15-17 May 2015 : [proceedings] 2015 / p. 120-123 : ill

### **Simple signals for system identification**

**Annus, Paul; Land, Raul; Min, Mart; Ojarand, Jaan** Fourier transform - signal processing 2012 / p. 257-276 : ill  
[https://cdn.intechopen.com/pdfs/35223/InTech-Simple\\_signals\\_for\\_system\\_identification.pdf](https://cdn.intechopen.com/pdfs/35223/InTech-Simple_signals_for_system_identification.pdf)

### **Simplified signal processing for impedance spectroscopy with spectrally sparse sequences**

**Annus, Paul; Land, Raul; Reidla, Marko; Ojarand, Jaan; Mughal, Yar M.; Min, Mart** XVth International Conference on Electrical Bio-Impedance (ICEBI) and XIVth Conference on Electrical Impedance Tomography (EIT) : 22-25 April 2013, Heilbad Heiligenstadt : abstracts 2013 / p. 76 <https://doi.org/10.1088/1742-6596/434/1/012031> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Some errors during impedance measurement**

**Annus, Paul; Land, Raul; Min, Mart** Book of abstracts : 16th International Conference on Electrical Bio-Impedance : 17th Conference on Electrical Impedance Tomography : ICEBI and EIT Stockholm, 19-23 June 2016 2016 / p. 90

### **Some observations on impedance and Ferranti effect**

**Land, Raul; Min, Mart; Annus, Paul** The 10th International Conference on Bioelectromagnetism : proceedings 2015 / [2] p. : ill

### **Spectral properties of the phase-locked harmonic analyzer**

**Min, Mart; Land, Raul** XXIII General Assembly URSI : abstracts, Prague, 28. Aug.- 05. Sept., 1990. Vol. 2 1990 / p. 334

### **Step-wise approximated multi-cycle sine wave for dynamic tests of AD converters**

**Land, Raul** XVI IMEKO World Congress : IMEKO2000 : proceedings of the 5th Workshop on ADC Modelling and Testing (EWADC'2000) : Vienna, Austria, Sept. 25-28, 2000 2000 / p. 217-220

### **Study of electrode locations for joint acquisition of impedance- and electro-cardiography signals**

**Metshein, Margus; Gautier, Antoine; Larras, Benoit; Frappe, Antoine; John, Deepu; Cardiff, Barry; Annus, Paul; Land, Raul; Märten, Olev** 2021 43rd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC) Oct 31 - Nov 4, 2021 : virtual conference 2021 / p. 7264-7267 : ill <https://doi.org/10.1109/EMBC46164.2021.9629504> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Sünkroonmuundustehnika faasitundliku spektraalanalüüsi vahendina : magistritöö**

**Land, Raul** 1992 [https://www.ester.ee/record=b2630379\\*est](https://www.ester.ee/record=b2630379*est)

### **Synchronous approximation and processing of sampled data signals**

**Land, Raul** 2002 [https://www.ester.ee/record=b1688698\\*est](https://www.ester.ee/record=b1688698*est)

### **The impedance spectroscopy of CuIn3Se5 photoabsorber films prepared by high vacuum evaporation technique**

**Laes, Kristjan; Bereznev, Sergei; Land, Raul; Tverjanovich, Andrey; Volobujeva, Olga; Traksmäa, Rainer; Raadik, Taavi; Öpik, Andres** Energy procedia 2010 / 1, p. 119-131 : ill

### **The measurement and tuning of SiC diode voltage doubler represented as diffusion-welded stack [Online resource]**

**Toompuu, Jana; Sleptšuk, Natalja; Land, Raul; Korolkov, Oleg; Rang, Toomas** BEC 2018 : 2018 16th Biennial Baltic Electronics Conference (BEC) : proceedings of the 16th Biennial Baltic Electronics Conference, October 8-10, 2018 2018 / 4 p.: ill <https://doi.org/10.1109/BEC.2018.8600963>

### **The realization of the synchronous signal conditioning and demodulating system**

**Land, Raul** BEC : Baltic Electronics Conference : proceedings of the 4th Biennial Conference, October 9-14, 1994, Tallinn (Estonia). 1 1994 / p. 151-158: ill

### **Time-frequency impedance spectroscopy : excitation considerations**

**Land, Raul; Annus, Paul; Min, Mart** Proceedings of the 15th IMEKO TC4 International Symposium on Novelties in Electrical Measurements and Instrumentations : Iasi, Romania, September 18-22, 2007. 1 2007 / p. 328-331

### **TMS320F2811-based multi-frequency multi-channel bio-impedance measurement device**

**Märten, Olev; Min, Mart; Land, Raul; Liimets, Aivar; Trappärk, Harri; Annus, Paul** EDERS 2008 : 3rd European DES Education & Research Symposium : proceedings : Tel Aviv, Israel, 18th June 2008 / p. 179-183. [CD-ROM]

### **TMS320F28069-based impedance spectroscopy with binary excitation**

**Rist, Marek; Reidla, Marko; Min, Mart; Parve, Toomas; Märten, Olev; Land, Raul** EDERC 2012 : proceedings of the 5th European DSP in Education & Research Conference : 13-14 September 2012, Amsterdam, The Netherlands 2012 / p. 217-220 <https://ieeexplore.ieee.org/document/6532258>

### **TMS320F28335-based high-accuracy complex network analyzer instrument**

**Reidla, Marko; Märten, Olev; Land, Raul** EDERC 2012 : proceedings of the 5th European DSP in Education & Research Conference : 13-14 September 2012, Amsterdam, The Netherlands 2012 / p. 44-47 <https://ieeexplore.ieee.org/abstract/document/6532222>

### **Two methods for estimating the signal-to-noise ratio of distance sensors**

**Breitenbach, Arvid; Land, Raul** BEC'98 : the 6th Biennial Conference on Electronics and Microsystems Technology, October 7-9, 1998, Tallinn, Estonia : proceedings 1998 / p. 117-120: ill

### **Variation of cardiac and respiratory waveform on human thorax in the case of inductive coupling**

**Metshein, Margus; Annus, Paul; Land, Raul; Krivoše, Andrei; Ojarand, Jaan; Aabloo, Alvo; Min, Mart** EMBEC & NBC 2017 : joint conference of the European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), Tampere, Finland, June 2017 2018 / p. 671-674 : ill [https://doi.org/10.1007/978-981-10-5122-7\\_168](https://doi.org/10.1007/978-981-10-5122-7_168) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Wearable data acquisition system of multimodal physiological signals for personal health care**

**Annus, Paul; Samiepour, Ali; Rist, Marek; Ruiso, Indrek; Krivoše, Andrei; Land, Raul; Parve, Toomas; Min, Mart** pHealth 2013 : proceedings of the 10th International Conference on Wearable Micro and Nano Technologies for Personalized Health : June 26-28, 2013, Tallinn, Estonia 2013 / p. 107-112 : ill <https://doi.org/10.3233/978-1-61499-268-4-107> [Journal metrics at Scopus](#) [Article at Scopus](#)

### **Wideband frequency response analysis for sensitive condition estimation of machine's turn insulation degradation faults**

**Sardar, Muhammad Usman; Vaimann, Toomas; Kütt, Lauri; Asad, Bilal; Kallaste, Ants; Land, Raul** 2025 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) 2025 / 6 p <https://doi.org/10.1109/WEMDCD61816.2025.11014207>

### **Wideband object identification with rectangular wave chirp excitation**

**Paavle, Toivo; Min, Mart; Annus, Paul; Birjukov, Andrei; Land, Raul; Parve, Toomas** ECCTD'09 : European Conference on Circuit Theory and Design 2009 : Antalya, Turkey, August 23-27, 2009 2009 / p. 421-424 <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=5275007>

**A virtual system for simultaneous multi-frequency measurement of electrical bioimpedance**

Gordon, Rauno; Land, Raul; Min, Mart; Parve, Toomas; Salo, R.W. International journal of bioelectromagnetism 2005 / p. 243-246

**Астатическая система ФАП с цифровым интегратором**

Land, Raul; Min, Mart Моделирование и управление в системах технической кибернетики 1987 / с. 37-42

**Вопросы разработки измерительного канала векторвольтметров дискретного действия**

Parve, Toomas; Land, Raul; Lipping, Kalle Синхронные измерительные преобразователи 1984 / с. 17-27

**Вопросы спектрального анализа с помощью синхронного преобразователя дискретного действия**

Land, Raul Анализ и синтез сложных систем и цепей с помощью ЭВМ 1988 / с. 57-62

**Динамический синтез следящих систем третьего порядка**

Land, Raul; Mehik, Allan; Min, Mart XXV студенческая научно-техническая конференция вузов Прибалтийских республик, Белорусской ССР и Молдавской ССР, 21-23 апреля 1981 года : тезисы докладов. Том 2, Автоматика. Энергетика. Механика. Химия 1981 / с. 41-42 [https://www.ester.ee/record=b1322629\\*est](https://www.ester.ee/record=b1322629*est)

**Переходные процессы в неавтономной системе ФАП третьего порядка**

Land, Raul; Min, Mart Анализ и синтез сложных систем и цепей с помощью ЭВМ 1986 / с. 71-80

**Применение адаптивных синхронных преобразователей в НИС**

Land, Raul; Lipping, Kalle Измер. информац. системы ИИС-91, Санкт-Петербург, ноябрь 26-28, 1991 1991 / с. 1

**Фазостабильный опорный канал квадратурного анализатора**

Land, Raul Тезисы докладов всесоюзной научно-технической конференции "Современные проблемы фазоизмерительной техники и ее применения" : 18-22 сент. 1989 г 1989 / с. 20

**Электротехника и автоматика**

Bachverk, Aleksander; Min, Mart; Parve, Toomas; Land, Raul; Lipping, Kalle; Võrno, Toivo; Logunov, Gennadi; Rüstern, Ennu; Peterson, Jaak; Trumm, Tõnu; Trampärk, H.; Sillamaa, Hanno 1984 [https://www.ester.ee/record=b1356648\\*est](https://www.ester.ee/record=b1356648*est)

**Электротехника и автоматика**

Mägi, Harri; Rüstern, Ennu; Aarna, Olav; Kiitam, Andres; Land, Raul; Min, Mart; Ronk, Ants; Parve, Toomas; Rang, Toomas; Mahhitko, V.P.; Šendrik, M.G.; Tamm, Boris, inform. 1986 [https://www.ester.ee/record=b1296468\\*est](https://www.ester.ee/record=b1296468*est)

**Электротехника и автоматика**

Laansoo, Ants; Aarna, Olav; Metsanurm, Margus; Teder, Toomas; Kiitam, Andres; Saks, Eva; Land, Raul; Min, Mart; Remmel, Ülo; Ronk, Ants; Rang, Toomas 1987 [https://www.ester.ee/record=b1221893\\*est](https://www.ester.ee/record=b1221893*est)

**Электротехника и автоматика**

Pikkov, Otto; Uutma, Toomas; Seppel, Simmu; Umbleja, Uko; Väljamäe, Gunnar; Gordon, Boris; Proode, Ülo; Raiend, Kullo; Aarna, Olav; Metsanurm, Margus; Land, Raul; Lipping, Kalle; Ronk, Ants; Saar, R. 1988 [https://www.ester.ee/record=b1288214\\*est](https://www.ester.ee/record=b1288214*est)