

RESUME of Victor Sidorov

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e-mail: victor.sidorov@gmail.com
Birth date: 08 July 1963
Family: Married, 1 son
Citizenship: Israeli, permanent residence in Germany
Languages: English (fluent), Hebrew (fluent), German (basic, enough for professional communication), Russian (mother tongue)



Experience Summary:

Projects management and engineering:

1. Microelectronics: high-frequency and high-power (III-V, GaN), optoelectronics
2. Semiconductor industry: photovoltaics, solar cells
3. Micro- and nanotechnology: micro-machining, MEMS/MOEMS (sensors, actuators, optical and RF switches), photonics and optical fibers processing, nanotechnology (carbon nano-tubes, molecular electronics), vacuum microelectronics

Professional Experience:

- 2010 – 2012 Odersun AG, Fürstenwalde, Germany.
Leitung Work Center Operations, R&D Projektleiter.
Responsibility: Design and development of photovoltaic devices, technology. Photo-absorber production line.
- 2005 - 2010: FBH - Ferdinand-Braun-Institut, Leibniz-Institut für
Höchstfrequenztechnik, Berlin, Germany
Scientist.
Responsibility:, High-power and high-voltage GaN/AlGaIn devices. Surface phenomena and treatment. E-beam litho.
- 2001 – 2005: Consultant (free-lance)
Novatrans Group SA, Switzerland; BlueBird Optical MEMS Ltd., Israel; Whole-Optics, Israel; Weizmann Inst. of Science, Israel; Technion – Israel Inst. of Technology, Israel.
- 1996 - 2004: Technion - Israel Institute of Technology. Microelectronics
Research Center, Electrical Engineering Faculty, Haifa, Israel
Senior Researcher.
Responsibility: Clean room for III-V semiconductors.
Processing and characterization of III-V devices and MMIC.
Nanotechnology research – in collaboration with
Weizmann Institute of Science, Rehovot, Israel
- 1994 - 1996: Mizur Micromechanics Technology Ltd. Nazareth Illit, Israel.
Process development engineer.
Responsibility: MEMS design and manufacturing.

- 1992 – 1994: Kibbutz Hokuk, Israel.
"First Home in Motherland" - special program for new immigrants.
- 1985 -1991: Light Industry Institute. Moscow, USSR.
Engineer-Researcher.
R&D in the field of Si and Ge semiconductors.

Education:

1985-1989: Graduate training in Physics of semiconductor materials. Department of Higher Mathematics, Light Industry Institute, Moscow, USSR.

1980-1985: MS Chemistry. Semiconductors department of Chemistry faculty, University of Voronezh, Russian Federation. **Graduated with honours.**

1985: Research training in Semiconductor Department in Metallurgical Institute of USSR Academy of science, Moscow. Within the University syllabus.

Courses:

2004 – 2005: 3 postgraduate courses: Mathematics, Electrochemistry, Materials chemistry (6 credit points). Department of Chemical Physics, Weizmann Institute of Science, Rehovot, Israel.

2003: 1st National Workshop on electron-beam lithography. Tel-Aviv University Research Center for Nanoscience & Nanotechnology, Israel.

2001: Photonics manufacturing (3 courses). OZ Optics Canada, Ottawa, Canada.

1999-2000: 3 postgraduate courses: Heat and mass transfer phenomena, Advanced thermodynamics, Analytical methods in chemical engineering (7.5 credit points). Department of Chemical Engineering, Technion – Israel Inst. of Technology.

1998: High-speed microelectronics devices. Department of Electrical Engineering, Technion – Israel Inst. of Technology.

1990: Computer application. Qualification Advance Department of Moscow State University, USSR.

Additional information:

1. 1978-1984: Prizewinner in different ranges of student chemical competitions.
2. Biographical profile is included in Who's Who in Science and Engineering, Marquis Who's Who, 6th and 7th edition.
3. Biographical profile is included in 2000 Eminent Scientists of Today, nominee as an International Man of the Year for 2003, International Biographical Centre, Cambridge, England, 2003.

List of Publications of Victor Sidorov

1. R. Zhytnytska, O. Hilt, V. Sidorov, J. Würfl, G. Tränkle. GaN Flip Chip Power Transistor Optimization for Switching Applications. 34th Workshop on Compound Semiconductor Devices and Integrated Circuits (WOCSDICE). Darmstadt, Germany, 2010.
2. E. Bahat Treidel, O. Hilt, F. Brunner, V. Sidorov, J. Würfl, G. Tränkle. GaN-based double heterojunction HEMTs' breakdown voltage enhancement using multiple grating field plates. 34th Workshop on Compound Semiconductor Devices and Integrated Circuits (WOCSDICE). Darmstadt, Germany, 2010.
3. E. Bahat-Treidel, O. Hilt, F. Brunner, V. Sidorov, J. Würfl, and G. Tränkle. AlGa_N/Ga_N/AlGa_N DH HEMTs breakdown voltage enhancement using Multiple Grating Field Plates (MGFPs). *Electron Devices, IEEE Transactions on*, Vol. 57, no. 6, pp. 1208-1216, 2010
4. R. Zhytnytska, J. Würfl, V. Sidorov. Flip-Chip-Technologie mit neuartigen UBM für die Ankontaktierung von Transistoren in III/V-Technologie. Mikrosystemtechnik-Kongress 2009 vom 12.-14. Oktober 2009 in Berlin
5. O. Hilt, E. Bahat-Treidel, V. Sidorov, and J. Würfl. Gate-Length Dependent on-state 2DEG Constriction in AlGa_N/Ga_N HEMTs. In *The 32nd Workshop on Compound Semiconductor Devices and Integrated Circuits, abstract book*. M. Germain, , pp. 29-30. Ed. 2008
6. E. Bahat-Treidel, V. Sidorov, J. Würfl, and G. Tränkle, "Simulation of AlGa_N/Ga_N HEMTs' breakdown voltage enhancement using grating field plates," in *Simulation of Semiconductor Processes and Devices 2007*, 12 ed. T. Grassler and S. Selberherr, Eds. Vienna: Springer Vienna, , pp. 277-279. 2007
7. E. Cohen, Y. Betser, B. Sheinman, S. Cohen, S. Sidorov, A. Gavrilov, and D. Ritter "75 GHz InP HBT Distributed Amplifier with Record Figures of Merit and Low Power Dissipation" *IEEE Transaction on Electron Devices*, 53, pp.: 392 - 394. Feb. 2006
8. Oded Dassa, Victor Sidorov, Yaron Paz, Dan Ritter. Coating and passivation of InP-InGaAs devices by organic self-assembled monolayers. *Journal of the Electrochemical Society*, Vol. 153, no 1, pp.: G91-G97 (2006)
9. D. Cohen Elias, S. Kraus, A. Gavrilov, S. Cohen, N. Buadana, V. Sidorov, and D. Ritter. Design and Performance of InP/GaInAs/InP abrupt DHBTs. *Indium Phosphide & Related Materials (IPRM 2005)*
10. E. Cohen, Y. Betser, B. Sheinman, S. Cohen, V. Sidorov, A. Gavrilov, and D. Ritter. 75 GHz InP HBT DISTRIBUTED AMPLIFIER WITH RECORD FIGURES OF MERIT AND LOW POWER DISSIPATION FOR OEIC APPLICATIONS. *Indium Phosphide & Related Materials (IPRM 2005)*
11. D. Cohen Elias, S. Kraus, A. Gavrilov, S. Cohen, N. Buadana, V. Sidorov, and D. Ritter. Abrupt InP/GaInAs/InP DHBTs. *IEEE Electron Device Letters*; 26(1): pp.: 14-16, Jan. 2005
12. Dm. Shvarts, M. Hazani, B. Ya. Shapiro, G. Leituss, V. Sidorov, R. Naaman, Molecular Induced Field Effect in Superconducting Nb Films, *Eu. Phys. Lett.*, 72, 465-471 (2005).
13. Miron Hazani, Dmitry Shvarts, Dana Peled, Victor Sidorov, Ron Naaman. Self-assembled electrical circuits and their electronic properties. *Farday Discussion* (2005).
14. Miron Hazani, Dmitry Shvarts, Dana Peled, Victor Sidorov, and Ron Naaman. Self-assembled carbon-nanotube-based field-effect transistors. *Appl. Phys. Lett.* 85, 21, pp.:5025-5027, Nov 2004

15. M. Hazani, F. Hennrich, M. M. Kappes, R. Naaman, D. Peled, V. Sidorov, and D. Shvarts. DNA mediated self assembly of carbon nanotube based electronic devices. *Chem. Phys. Lett.* 391, 389 (2004).
16. G. Zohar, S. Cohen, V. Sidorov, A. Gavrilov, B. Sheinman, and D. Ritter. Reduction of base transit time of InP/GaInAs heterojunction bipolar transistors due to electron injection from an energy ramp and base composition grading. *IEEE-Transactions-on-Electron-Devices*, 51(5): pp.: 653-657, May 2004
17. B. Sheinman, V. Sidorov, and D. Ritter. Capacitance of Abrupt One-Sided InP/GaInAs Heterojunctions. *IEEE Conference on Indium Phosphide and Related Materials*, Santa-Barbara CA, May 2003.
18. O. Dassa, V. Sidorov, D. Ritter, and Y. Paz. Passivation of III-V Semiconductors by Organic Self-Assembled Monolayers (SAMs): Effect of Lattice Planes. *EMCC-3: 3rd Chemical Engineering Conference for Collaborative Research in Eastern Mediterranean*, Thessalonici, Greece, May 13-15, 2003.
19. D. Ritter, B. Sheinman, V. Sidorov, S. Cohen, A. Gavrilov, Y. Vered, and G. Zohar, Optimization of InP/GaInAs Heterojunction Bipolar Transistors and Phototransistors – Invited paper. *IEEE Conference on Microwave Photonics*, Awaji, Japan, November 5-8, 2002, pp. 337-340.
20. Lasri, A. Bilenca, D. Dahan, V. Sidorov, G. Eisenstein, D. Ritter, and K. Yvind, A Self-Starting Hybrid Optoelectronic Oscillator Generating Ultra Low Jitter 10-GHz Optical Pulses and Low Phase Noise Electrical Signals, *IEEE Photonics Technology Letters*, Vol. 14, no. 7, July 2002
21. B. Sheinman, E. Wasige, M. Rudolph, R. Doerner, V. Sidorov, S. Cohen, and D. Ritter, A Peeling Algorithm for Extraction of the HBT Small-Signal Equivalent Circuit. *IEEE Transactions on Microwave Theory and Techniques*, Vol. 50, no. 12, pp. 2804-2810, December 2002
22. M.Schvartzman, V. Sidorov, D. Ritter, and Y. Paz, Passivation of InP Surfaces of Electronic Devices by Organothiolated Self-Assembled Monolayers. Accepted, *Journal of Vacuum Science and Technology B*, Vol. 21, no. 1, pp. 148-155.
23. E. Wasige, B. Sheinman, V. Sidorov, S. Cohen, and D. Ritter, An analytic expression for the HBT extrinsic base-collector capacitance derived from S-parameter measurements. *IEEE MTT-S International Microwave Symposium*, Seattle, Washington, 2-7 June 2002, pp. 733-736.
24. Schvartzman, M.; Sidorov, V.; Ritter, D. and Paz, Y. Surface passivation of (100) InP by organic thiols and polyimide as characterized by steady-state photoluminescence. *Semicond. Sci. Technol.* 16 (2001) L68–L71
25. Lasri, J.; Bilenca, A.; Eisenstein, G.; Ritter, D.; Orenstein, M.; Cohen, S.; Sidorov, V. Self oscillation at millimeter-wave frequencies and modulation using optoelectronic mixing in a two-heterojunction bipolar photo-transistors configuration. *IEEE Photonics Technology Letters*, Vol. 13, no. 1, January 2001.
26. Lasri, J.; Bilenca, A.; Eisenstein, G.; Ritter, D.; Orenstein, M.; Sidorov, V.; Cohen, S Goldgeier, P. A two heterojunction bipolar photo-transistor configuration for millimeter wave generation and modulation. *Microwave Photonics, 2000. MWP 2000. IEEE International Topical Meeting 2000*, pp: 62–65.
27. Bilenca, A.; Lasri, J.; Eisenstein, G.; Ritter, D.; Orenstein, M.; Sidorov, V.; Cohen, S.; Goldgeier, P., Experimental demonstration and modelling of optoelectronic mixing and digital modulation in a single InP photo heterojunction bipolar transistor. *Microwave Photonics, 2000. MWP 2000. IEEE International Topical Meeting 2000*, pp: 203 –206
28. A. Bilenca, J. Lasri, G. Eisenstein, D. Ritter, V. Sidorov, S. Cohen, P. Goldgeier, and M. Orenstein. Optoelectronic Generation and Modulation of Millimeter Waves in a Single InP–

GaInAs Photo Heterojunction Bipolar Transistor. IEEE Photonics Technology Letters, Vol. 12, no. 9, October 2000.

29. J. Lasri, Y. Betser, V. Sidorov, S. Cohen, D. Ritter, M. Orenstein and G. Eisenstein. HBT Optoelectronic Mixer at Microwave Frequencies: Modeling and Experimental Characterization. Journal of Lightwave Technology, vol. 17, no 8, pp.1423-1428, August 1999.
30. J. Lasri, P. Goldgeier, V. Sidorov, D. Ritter, M. Orenstein, G. Eisenstein, Y. Betser, Y. Satubi. Frequency Locking at 50 GHz Spacings Using Optoelectronic Mixing in Photo - Heterojunction Bipolar Transistors. IEEE Photonics Technology Letters, vol. 11, no 10, pp. 1298-1300, October 1999.
31. Sidorov V., Shai A., Ritter D., Paz Y. Polyimide Coating on Non-Planar Microelectronic Devices: Characterization of Vacuum Drying Effects by a New "Flip-Paste" Back-Etching Method. Surface and Coating Technology, vol. 122, no 2-3, pp. 214-218, December 1999.
32. Y. Betser, J. Lasri, V. Sidorov, S. Cohen, D. Ritter, M. Orenstein, G. Eisenstein, A. Seeds, and A. Madjar. An integrated heterojunction bipolar transistor cascode opto-electronic mixer. IEEE Transactions on Microwave Theory and Techniques, vol. 47, Issue 7, Part 2, July 1999
33. Liu, C.P., Seeds, A.J., Betser, Y. Sidorov, V., Ritter, D.; Madjar. A Two-tone third-order intermodulation distortion characteristics of an HBT optoelectronic mixer using a two-laser approach. MWP '99 - International Topical Meeting on Microwave Photonics, vol. 1, pp. 87 -90, 1999
34. Syzdykova, Kudaikulova, Boiko G.I., Zhubanov, Figovsky O., Sidorov V., Kupchishin and Abadie M. Reflective Mirror Films on Polyimide Substrate with High Electro and Thermal Conductivity. Proceedings of STEPI 5th European Technical Symposium of Polyimides & High Performance Functional Polymers (Chemistry, Physics & Properties), Montpellier, France , May 3-5, 1999, paper IV6.
35. Sidorov V., Paz Y., Ritter D. New Method for Observation of Polyimide Adhesion on Non-planar Surface. Proceedings of 3rd International Conference on Adhesive Joining & Coating Technology in Electronics Manufacturing, pp. 202-205. September 27 - 30, 1998
36. Sidorov V. A., Samodurov I. S., Sidorov V.V. Mixed Plane Problem of Elasticity Theory for Orthotropic Object in Cartesian Coordinates. Russian Institute of Scientific and Technical Information, Reg. # 1156-B94 (22.05.94)
37. Sidorov V. A semi-empirical estimation of minimum point composition for binary metal infinite solid solution (Russian). Physics and Chemistry of Heterogeneous Systems, pp. 105 -111. Voronezh State University, Russia, 1984

Patents

1. V. Sidorov, R. Zhytnytska and H.-J. Würfl. A method for producing a metallization for at least one contact pad and the semiconductor wafer with metallization for at least one contact pad. Patent Application U.S. 2012/0080794 A10 Pub. Date 2012-04-05
2. V. Sidorov, R. Zhytnytska and H.-J. Würfl. Full-dry process for interconnect formation and underbump metallisation. Patent Number: 10 2009 013 921.4, Pub. Date: 2010-09-30
3. E. Bahat-Treidel, V. Sidorov, and J. Würfl, "Semiconductor Component and Method for Producing the Same," Patent Number: EP2135286, Publication date: 2009-12-23.
4. Y. Nemirovsky, E. Sidorov, V. Sidorov. Method for the metallization of optical fibers. United States Patent 6798963, Issued on September 28, 2004.

References

1. Dr.-Ing. Joachim Würfl - Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik, Head of GaN electronics business area. Tel: +49.30.639-2690, Fax: +49.30.6392-2685, e-mail: joachim.wuerfl@fbh-berlin.de .
2. Prof. Dan Ritter, Technion – Israel Inst. of Technology, Dept. of Electrical Engineering, Tel: 972-4-8-294206, Fax: 972-4-8-322185, e-mail: ritter@ee.technion.ac.il
3. Prof. Yael Nemirovsky, Technion – Israel Inst. of Technology, Dept. of Electrical Engineering, Tel: +972-4-8294688, Fax: +972-4-8295757, e-mail: nemirov@ee.technion.ac.il

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5. Prof. Figovsky Oleg. L., Eurotech Ltd., Technical Director and Advisory Board Member, Tel: 972-4-8257403, Fax: 972-4-8238736, e-mail: figovsky@netvision.net.il; Home Page: <http://figovsky.borfig.com>.