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Dmitrii Semenov

Education

2021 – 2024 (expected)

Brno University of Technology, Czech Republic (BUT)
Department of Radio Electronics
BS in Electronics and Communication Technologies
- GPA: 3.87/4.0

2020 - 2021

Ural Federal University, Ekaterinburg, Russia (URFU)
Institute of Physics and Technology
Major - Electronics and automation of physical setups
- After 1 year of study transferred to BUT

Internships

January 2023 – Present

Analog Design Internship, company ON Semiconductor (ONSEMI)
- Developed a transistor-level analog design of IC cells (in CMOS 65nm based technology) for automotive applications using Cadence Spectre Simulation platform

July 2022 – January 2023

Layout Mask Design Internship, company ON Semiconductor (ONSEMI)
- Designed IC cells of mixed signal circuits (in high voltage CMOS 180nm based technology) for automotive and industrial applications using Cadence Virtuoso Layout editor

June 2022 – July 2022

Summer Analog Design Internship, company ON Semiconductor (ONSEMI)
- Designed analog IC in CMOS 180nm based technology
- Final project: Low drop voltage regulator, **best project award**

Research experience

August 2022 – Present

Electrical engineering research of memristor technology
(Supervised by Dr. Sotner R., MS Bhardwaj K., Brno University of Technology)
- Developed memristor emulator using transconductance amplifiers and conveyors based on CMOS 350nm technology. Now we're working on manuscript with comparison of simulations and experiments results

May 2021 – Present

Nuclear physics research applied to Mossbauer spectrometry
(Supervised by Prof. Felix Sidorenko, Ural Federal University)
- Developing a methodology to determine correlation moments (short-range order) of the atomic distribution in three-component alloys based on the decoding Mossbauer spectra of ^{57}Fe

Journal publications

2021

Geit T.S., **Semenov D.A.**, Sidorenko F.A. Direct measurement of the critical diving depth of a Cartesian diver. // Educational physics, ISSN: 2307-5457, № 1, 9-12, in Russian

2020

Semenov D.A., Sidorenko F.A. Friction oscillator investigation. // Educational physics, ISSN: 2307-5457, № 1, 15-18, in Russian

2019 **Semenov D.A.**, Sidorenko F.A. Looping pendulum on a thread of varying length. // Educational physics, ISSN: 2307-5457, № 2, 26-28, in Russian

Conference proceedings

October 2021 Borodin I.D., Krotov A.D., **Semenov D.A.**, Sidorenko F.A. IYPT (International Young Physicists Tournament) problems as a means of forming physical thinking of schoolchildren. // Formation of thinking in the process of teaching natural science, technological and mathematical disciplines: materials of the Russian Scientific and Practical Conference 65-67, in Russian

2021 Geit T.S., **Semenov D.A.**, Sidorenko F.A. Direct measurement of the critical diving depth of a Cartesian diver. // Problems of educational physical experiment: Collection of scientific papers. INSTRAO, Issue 32, 49, in Russian

2020 **Semenov D.A.**, Sidorenko F.A. Friction oscillator investigation. // Problems of educational physical experiment: Collection of scientific papers. INSTRAO, Issue 31, 75-76, in Russian

2019 **Semenov D.A.**, Sidorenko F.A. Looping pendulum on a thread of varying length. // Problems of educational physical experiment: Collection of scientific papers. INSTRAO, Issue 30, 68, in Russian

2018 Sidorenko F.A., **Semenov D.A.**, Snigirev E.S. Diffraction while photographing a distant light source. // Problems of educational physical experiment: Collection of scientific papers. INSTRAO, Issue 28, 114, in Russian

Scholarships & Awards

2022 – Present Scholarship for excellent academic achievements, Brno University of Technologies

September 2020 **Bronze medal** in International Young Physicists Tournament (IYPT) (Team competition), 11 participating countries

March 2018 **First place** in Russian Young Physicists Tournament (RYPT) (Team competition), city Novosibirsk

Skills

Programming and modeling

- Matlab, Pascal, Python, VHDL(beginner), Solidworks

Electrical Engineering software

- Cadence Spectre for IC design, Cadence Virtuoso Layout for IC layout, EAGLE PCB editor, pSpice, Microcap

Languages

- Russian (native), English (fluent, IELTS Academic 7.5), Czech (fluent), German (beginner)