Ștefan-Alexandru Ghinescu

Date of birth: 16/05/1995

Nationality: Romanian

Gender: Male

CONTACT

europass

WORK EXPERIENCE

2018 – CURRENT – Magurele, Romania

ACS

National Institute for Physics and Nuclear Engineering "Horia-Huluibei" (IFIN-HH)

- Developing and maintaining the the Digitization software of the HASC subdetector in the NA62 experiment at CERN.
- Maintaining and improving the reconstruction software for the HASC subdetector.
- Development of a model for the electric signal generated by silicon fotomultipliers (SiPM) used in the HASC subdetector.
- Maintaining and improving the Data Quality software dedicated to the HASC subdetector.
- Participation and contributions to various Working Group meetings in the NA62 collaboration.
- Study of the ALP->gg process in the Exotics working group of the NA62 collaboration.
- Study of the Dark Scalar sensistivity of NA62 in the Exotics working group.

2018 – CURRENT – Magurele, Romania

ACS

UNESCO cat. II International Centre for Advanced Training and Research in physics (CIFRA)

- Study of the very rare double beta decay process.
- Development, maintenance and improvement of various algorithms and programs used in the study of beta and double beta decay.

2016 – 2018

Physicist

National Institute for Physics and Nuclear Engineering "Horia-Huluibei" (IFIN-HH)

- Developing and maintaining the the Digitization software of the HASC subdetector in the NA62 experiment at CERN.
- Maintaining and improving the reconstruction software for the HASC subdetector.
- Development of a model for the electric signal generated by silicon fotomultipliers (SiPM) used in the HASC subdetector.
- Maintaining and improving the Data Quality software dedicated to the HASC subdetector.
- Participation and contributions to various Working Group meetings in the NA62 collaboration.

Măgurele, Romania

2015 – 2016

Tehnician

National Institute for Physics and Nuclear Engineering "Horia-Huluibei" (IFIN-HH)

- Maintaining and improving the reconstruction software for the HASC subdetector.

- Developing the Data Quality software dedicated to the HASC subdetector.

Măgurele, Romania

10/2018 – CURRENT – Bucuresti, Romania

University teaching assistant

Universitatea Bucuresti

Seminars for the **Thermodynamics and Statistical Physics** discipline

EDUCATION AND TRAINING

10/2018 – CURRENT – Măgurele, Romania

Theoretical Physics PhD student

Faculty of Physics, University of Bucharest

2016 – 2018 – Măgurele, Romania

Master of Science

Faculty of physics, University of Bucharest

- Teorie Cuantică de Câmp
- Electrodinamică Cuantică
- Fizica Particulelor Elementare
- Metode Computaționale în mai multe limbaje de programare(C++, Python, Mathematica

2013 – 2016 – Măgurele, Romania

Bachelor of Science

Faculty of Physics, University of Bucharest

LANGUAGE SKILLS

MOTHER TONGUE(S): Romanian

OTHER LANGUAGE(S):

English

Listening	Reading	Spoken production	Spoken interaction	Writing
C1	C1	C1	C1	C1

DIGITAL SKILLS

Mathematica / C C++ C / Python - advanced level / Latex - advanced level / GEANT 4 - advanced level / ROOT - advanced level / Fortran - Advanced level

PUBLICATIONS

- **Two-proton emission systematics**

  2022 https://journals.aps.org/prc/abstract/10.1103/PhysRevC.105.L031301

- **Investigation of the Lorentz invariance violation in two-neutrino double-beta decay**

  2022 https://journals.aps.org/prd/abstract/10.1103/PhysRevD.105.055032

- **Probing Lorentz violation in 2νββ using single electron spectra and angular correlations**

  2021 https://journals.aps.org/prd/abstract/10.1103/PhysRevD.103.L031701

- **A biased MC for muon production for beam-dump experiments**

  2021 https://link.springer.com/article/10.1140/epjc/s10052-021-09541-7

- **Semiclassical propagator approach for emission processes from deformed nuclei**

  2021 https://iopscience.iop.org/article/10.1088/1361-6471/ac22f5

- **Search for Lepton Number and Flavor Violation in K+ and pi0 Decays**

  2021 https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.127.131802

- **Measurement of the very rare K(+)->pi+nu nu decay**

  2021 https://link.springer.com/article/10.1007/JHEP06(2021)093

- **Search for a feebly interacting particle X in the decay K+ -> pi X+**

  2021 https://link.springer.com/article/10.1007/JHEP03(2021)058

- **Search for pi0 decays to invisible particles**

  2021 https://link.springer.com/article/10.1007/JHEP02(2021)201

- **Lorentz violation effects in 2νββ decay**

  2020 https://iopscience.iop.org/article/10.1088/1361-6471/ab7e8c

- **Coupled-channels analysis of the α decay in strong electromagnetic fields**

  2020 https://journals.aps.org/prc/abstract/10.1103/PhysRevC.101.044304

- **An investigation of the very rare $K^+ \to \pi^+ \nu\bar{\nu}$ decay**

  2020 https://link.springer.com/article/10.1007/JHEP11(2020)042

- **Search for heavy neutral lepton production in K+ decays to positrons**

  2020 https://www.sciencedirect.com/science/article/pii/S0370269320304032?via%3Dihub

- **Searches for lepton number violating K+ decays**

  2019 https://www.sciencedirect.com/science/article/pii/S0370269319304988?via%3Dihub

- **Search for production of an invisible dark photon in π0 decays**

  2019 https://link.springer.com/article/10.1007/JHEP05(2019)182

- **First search for K+ to pi+ nu nu bar using the decay-in-flight technique**

  2019 https://www.sciencedirect.com/science/article/pii/S0370269319301121?via%3Dihub

- **Search for heavy neutral lepton production in K+ decays**

  2018 https://www.sciencedirect.com/science/article/pii/S037026931830039X?via%3Dihub

- **Geiger-Nuttall Law for Nuclei in Strong Electromagnetic Fields**

  2017 https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.119.202501