

Ai sensi dell'art. 47 del D.P.R n. 445/2000, consapevole della responsabilità penale in cui può incorrere in caso di falsità in atti e dichiarazioni mendaci, il sottoscritto dichiara che tutte le informazioni nel seguente curriculum vitae corrispondono a verità.

Stefano Moneta

EDUCATION

- 2020 - present PhD in Physics - XXXVI Cycle, Università degli Studi di Perugia and INFN.
- 2018 - 2020 Master degree in Experimental Particle Physics, Università di Pisa. Grade 110/110 con Lode.
- Thesis title: A novel method for tau-lepton lifetime measurement with early Belle II data
Supervisors: Prof. F. Forti, Prof. E. Paoloni.
- Relevant coursework:
- ⑧ Statistical data analysis
 - ⑧ Fundamental interactions laboratory
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 - ⑧ Theoretical physics
 - ⑧ Discrete symmetries
 - ⑧ Particle accelerators
 - ⑧ Astroparticle physics
- Other courses attended:
- ⑧ Computing methods for HEP
 - ⑧ MonteCarlo methods in experimental physics
- 2015 - 2018 Bachelor of Science in Physics, Università di Pisa. Grade 107/110.
- Thesis title: Impact Parameter Resolution in ALEPH Minivertex Detector
Supervisor: Prof. G. Batignani.
- 2010 - 2015 Scientific Matura, Liceo Scientifico U. Dini, Pisa. Grade 100/100 con Lode.

EXPERIENCE

- 2020 - present PhD research activity within the Belle II Perugia group.
- ⑧ Working at the precise measurement of τ -lepton lifetime at Belle II.
 - ⑧ Following the Belle II electromagnetic calorimeter operations and studying the effect of beam-backgrounds.
- 2019 - 2020 Master Thesis activity joining the Belle II working group at INFN Pisa.
- ⑧ Investigated a new method for measuring τ -lepton lifetime. Tested it on Monte Carlo and on Belle II data recorded at the end of 2019 and the beginning of 2020.
 - ⑧ Took part at all the group activities and collaboration meetings.
- 2019 International Summer Student Program at GSI-FAIR.
- Joined the HADES experiment group and worked on the upgrade of the T_0 detector. The goal of the project was to evaluate the replacement of scCVD diamond sensors with Low Gain Avalanche Detectors. I developed a C++ software for online calibration and time walk correction. The software was successfully used for estimating time resolution and detector efficiency during test beams.

Talks

- 7-10 January 2021, XXVII Cracow Epiphany Conference on Future of Particle Physics - *Early tau lifetime measurements with Belle II*.

Publications

- J. Pietraszko et al. "Low Gain Avalanche Detectors for the HADES reaction time (T_0) detector upgrade". In: *The European Physical Journal A* 56.183 (2020).

SKILLS

Technical skills

- **Operating Systems:** Unix, Windows.
- **Programming Languages:** Long-standing advanced experience with ROOT, C++ and Python, especially on data analysis features (RooFit). Shell programming. Good knowledge of MATLAB, R and LabVIEW.
- **Markup Language:** L^AT_EX.
- **Software:** Version control with Git. Machine learning with Keras, TensorFlow. Cuda and PyCuda for parallel computing. Detector simulations with Geant4. Circuit simulation using LTSpice and Tina.
- **Electronics:** Operated with electronic modules (CAMAC and NIM), FPGA, ADC and microcontrollers.

Soft skills

- Strong experience to plan and lead a laboratory project both individually and in team.
- Developed theoretical and on-field experience about statistical treatment of experimental data.
- Wrote more than 30 scientific essays reporting results of experimental analysis. Hence acquired abilities in presenting laboratory projects with both articles and presentations.

Languages

- **English:** Writing and speaking fluently (C1 level).
- **French:** Good overall knowledge.
- **Italian:** Native language.

Pisa, 3 marzo 2021

