

Dears,

I am Doctor in particle and nuclear physics. My PhD supervisors were Juan A. Garzón Heydt and Pablo Cabanelas Eiras at Universidade de Santiago de Compostela (USC), Spain. My B.Sc and M.Sc thesis supervisor was Santiago González de la Hoz at Universitat de València/IFIC. My current research is focused in astroparticle physics and R&D of radiation detectors for technological and medical applications.

During my PhD, I have done the study of the response for Trasgo-like detectors and the particle identification with Tragaldabas Cosmic Ray telescope. A study of the lateral distribution functions of electron and muons clusters for different nuclei under the knee region was also carried out. I have acquired a strong background in tools as C/C++ programming language used in ROOT analysis program or EnsarRoot framework from Ensar project and Python programming language to write programs for the execution of simulations used in high energy physics (HEP) and the analysis of simulated data applied in the study of particle identification algorithms and response function/LDF for Trasgo-like detectors. Monte Carlo simulations generator and Geant4 implemented in EnsarRoot framework, and both events generators programs Corsika and Cry were also essential for my work. I generated simulated data with Corsika using resources from Galice Supercomputing Center for the analysis of secondary cosmic rays at ground level in order to propose an array of Trasgo-like detectors. My contribution to the code of EnsarRoot framework and collaboration was: implement the physics building to the geometry with the detector inside of this, the cosmic rays generator of realistic data from Cry, implement lead layers of 1 and 1.5 cm of thickness between the third and fourth plane of the detector and the implement of identification particle algorithms.

I can participate in the development of Codes in Python or C/C++ programming language for environments frameworks or algorithms programming and in electronics and hardware or software as much as possible. The Scientific collaboration work trained me to increase my communication skills in the research group using academic tools as a presentation of results with slides, a blackboard to converge ideas, etc . In addition, the USC's physics student Aida Álvarez-Díez worked with me to finish her studies with the master's thesis for the study of lateral distribution of Extensive Air Showers (EAS), this increased my pedagogical and didactic skills for transmit my knowledges in physics of Cosmic Rays. I have all knowledge and skills in Astrophysics, Physics, Mathematics, Statistics and Computational. Also, I can teach my knowledge (Physics, Mathematics, Statistics, Informatics, etc) in French and/or Spanish and/ or English language for students at your institution.

Please, find attached the following documents: Curriculum Vitae and PhD certificate, Research Statement and Publications List. You have at your disposal my Personal Website with additional information about me: <https://mural.uv.es/yafonbar/> . If you need some additional information, feel free to contact me. Thank you very kindly for your consideration.

Sincerely,

FONTENLA BARBA, Yanis.