



Instituto de Física
Universidad Autónoma de México
Grupo de Altas Energías

To whom it may concern,

Dear colleagues,

this letter aims to support the application of Daniel Maximiliano Ponce Chávez to the bootcamp on quantum computing for nuclear and particle physics organized at JLab in June 2023.

In 2018, Maximiliano followed my lectures on Mechanics during the second semester of the curriculum of undergraduate studies in Physics at the Science School of the National Autonomous University of Mexico (*Facultad de Ciencias, UNAM*). Mr. Ponce Chávez was by far the best student. He has been very active and participative, showing his enthusiasm for knowledge.

During the year 2021, Maximiliano joined my group for an undergraduate activity (*servicio social*) and participated in a summer project about parametrizations of parton distribution functions. This project, called the Fantômas project, is led by my colleague Prof. Nadolsky from the Southern Methodist University (TX, US) and myself. Max has collaborated, remotely, with the other students involved in the project. In October 2021, Max started his undergraduate dissertation based on the alpha version of the code to implement Bézier-curve fits, for which he took a very active part. The thesis was successfully defended in November 2022 at the School of Science of UNAM (*Facultad de Ciencias*). Throughout the development of the project, which is still ongoing, Max has been proactive in his communication and tasks. His thesis manuscript will serve as a reference for the mathematical formalism that has been developed. The examples he used to illustrate the baseline of the project show that he has a deep understanding of the underlying mechanisms of the role of the flexible parametrization to parton distribution fits, as implemented in Fantômas.

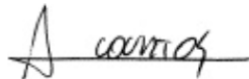
We are now at an advanced state in which the results are being finalized and compiled for a couple of publications. I can tell that Max demonstrated an interest in physics and showed a particular endeavor for problem solving. Max is a sociable yet very independent student. Working with him is very enjoyable. Without a doubt, Mr. Ponce Chávez has been the most prepared, committed, and focused student I have worked with. His abilities and profile indicate that he will do extremely well in academia if he chooses to pursue that path.

Mexico City, 05/02/23

During the last semesters, he has learned QFT, group theory, and particle physics, with a particular focus on deep-inelastic processes related to Parton Distribution Functions. I can tell that Max is eager to learn proactively. This is why I truly believe that the *Quantum Computing bootcamp* will be beneficial for his development as a scientist, as well as I am sure that he will represent our local students proudly.

Do not hesitate to contact me for further information.

Best regards,

A handwritten signature in black ink, appearing to read 'A. Courtoy', written over a horizontal line.

Aurore Courtoy