Abstract Submitted
for the APR14 Meeting of
The American Physical Society

Developments in Computational Physics at Particle Accelerators

FRANCISCO CANO, Student Member — Computational physics is a field that employs existing physics formulas, as well as mathematical algorithms to perform large-scale calculations with the help of computers. Throughout the years, we have come to completely and accurately understand the basic natural laws that govern certain systems. Over the past two decades however, the considerably increased power of both computing hardware and numerical algorithms have made the treatment of even more complex systems possible as well. Many physics fields depend on both programming and computation to interpret data collected through experiments. In accelerator physics, for example, computers must monitor, record, and analyze vast quantities of information each time that particles are collided in a particle accelerator. We will discuss the developments, requirements and use of computational algorithms, software developments and hardware specifications of some particle accelerators.

Francisco Cano
Student Member

Date submitted: 10 Jan 2014 Electronic form version 1.4