



Contribution ID: 40

Type: **not specified**

18-Optimisation studies for the pion-induced Drell-Yan measurement at the AMBER experiment

Wednesday 16 February 2022 14:00 (13 minutes)

The AMBER experiment at CERN was recently approved to study the pion-induced Drell-Yan process. Drell-Yan is a hard process where a quark-antiquark annihilation originates a virtual photon that decays in the final state to a pair of oppositely charged muons. This process allows privileged access to the pion structure. The valence, sea and gluon contributions in the pion will be characterised with unprecedented accuracy, by using high intensity pion beams of both charges impinging in different nuclear targets.

The optimization of the experimental apparatus is a goal of the proposed work. By using Monte Carlo methods of physics simulation, and a Geant4-based software to simulate the detector effects, this project will study different possible configurations for target cells dimension and position, geometry and position of new vertex detectors, and optimal length and composition of a hadrons absorber to be included in the setup.

Author: SILVA, Rita (LIP Laboratorio de Instrumentacao e Fisica Experimental de Particulas (PT))

Presenter: SILVA, Rita (LIP Laboratorio de Instrumentacao e Fisica Experimental de Particulas (PT))