San Juan de Pasto (Nariño), 15 de diciembre del 2020.

Señores: **Asamblea de Profesores**

Departamento de física.

Universidad de Nariño

Cordial Saludo

A continuación daré el informe de las actividades desarrolladas desde el en charla presentado en el evento 5**th ComHEP: Colombian Meeting on High Energy Physics** que tuvo lugar de forma virtual **https://indico.cern.ch/event/897772/** del 30 de Noviembre al 4 de diciembre del 2020. En esta conferencia realicé las siguientes actividades:

- Presenté la charla titulada **"Flavored Axions and the flavor problem ",**
- Y participé de las actividades realizadas en esta conferenia, que incluyeron charlas principales y sesiones paralelas.

El resumen de la charla

A Peccei-Quinn~(PQ) symmetry is proposed, in order to generate in the Standard Model~(SM) quark sector a realistic mass matrix ansatz with five texture-zeros. Limiting our analysis to Hermitian mass matrices we show that this requires a minimum of 4 Higgs doublets. This model allows assigning values close to 1 for several Yukawa couplings, giving insight into the origin of the mass scales in the SM. Since the PQ charges are non-universal the model features Flavor-Changing Neutral Currents~(FCNC) at the tree level. We calculate the FCNC couplings of the most general low-energy effective Lagrangian for the axion in a procedure valid for an arbitrary number of Higgs doublets. Finally, we report the allowed region in the parameter space obtained from the measurements of branching ratios of semileptonic meson decays.

Con esto doy por justificado mi comisión académica para tal viaje. Adjunto Certificado de asistencia al evento y la presentación.

COMHEP

5th Colombian Meeting
on High Energy Physics

30 November - 4 December, 2020
Colombia

conhep@gmail.com
https://indico.cern.ch/e/comhep5

This is to certify that

Eduardo Rojas

Participated as a speaker with the talk
Flavored axions and the flavor problem
in the 5th Colombian Meeting on High Energy Physics,
from 30th November to 4th December of 2020

Richard Benavides.
On behalf of the Organizing Committee