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This is the CMS-UniAndes Group Wiki Page

Introduction

This page contains information regarding the activities of the High Energy Physics (HEP) group at Universidad de los Andes, in Bogotá, Colombia. Also, the page has useful information for the members of the group.

The HEP group at Universidad de los Andes, is currently working on several projects on theoretical physics, software and hardware of particle physics detectors and also has a strong involvement on several physics analyses at CMS. Also, the group has been a pioneer in Colombia on the organization of particle physics schools, aimed to educate and motivate new generations of particle physicists in the country and to promote scientific collaborations with other institutions.

Physics Analysis

Our group is currently working on several physics analyses on CMS:

Supersymmetry (SUSY)

- Search for di-stop production with semileptonic final states, using matrix-elements (Avila, Cardona, Flórez).
- Search for dark matter on SUSY models through Vector Boson Fusion processes:
 - ◆ Analysis with final states containing two high pT jets and large MET (Flórez)
 - ◆ Analysis with final states containing two high pT jets, large MET and muons (Gomez, Cabrera, Flórez)

Higgs analysis

- Search for the higgs boson on the Dalitz decay channel (Sanabria, Chaparro, Flórez)

Hardware Projects

Work on the Resistive Plate Chambers (RPC) Detector of CMS

The group joined the CMS collaboration in 2006. As part of its contribution to the experiment, the group participates on several aspects on the operation and maintenance of the hardware and software of the RPC detector of CMS. The valuable contributions of the group to the RPC detector, has given as result the designation of two of our former students (Camilo Carrillo and Alberto Ocampo) as the Detector Performance Group (DPG) coordinators in two different occasions. Currently, the group is also involved on the upgrade of the RPC detector for the 2015 run.

The GEM Project

The Gas Electron Multiplier (GEM) is a muon detector upgrade project, aimed to instrument the high η region of the CMS detector ($1.5 < |\eta| < 2.4$) in order to improve the momentum resolution for high pT muons and to provide a better trigger and reconstruction capability in the forward region. Our group currently has a working GEM module installed in the HEP laboratory in Bogotá in order to perform studies that will benefit the understanding of this detector prior to its installation at the CMS detector, expected on the second long shutdown on 2017/2018. Detailed information on this project can be found here:

https://twiki.cern.ch/twiki/pub/MPGD/CmsGEMCollaboration/The_CMS_GEM_LS2_Project.pdf

Medipix**Current Group Members**

Currently, the experiemental group is being leadded by professors Carlos Avila, Bernardo Gomez and Juan Carlos Sanabria. The theoretcal group is leadded by professors Neelima Kelkar, Marek Nowakowsky and Jóse Roldan.

- Current PhD students, postdocs and engineers on experimental HEP:
 - ◆ Students: Juan Pablo Gómez, Luisa Chaparro, Andrés Cabrera, Carlos Felipe Gonzales.
 - ◆ Postdoc: Andrés Flórez.
 - ◆ Engineers: David Mendez, Julian Badillo, Luis Emiro Linares.
- Current PhD students on theoretical HEP

Former Group Members

- Former Post-docs: Andrés Osorio
- Former PhD students on experiemental HEP
 - ◆ Luis Miguel Medoza (Professor at Universidad Militar Nueva Granada, in Bogotá, Colombia)
 - ◆ Camilo Carrillo (former RPC DPG manager at CMS)
 - ◆ Alberto Ocampo (current RPC DPG manager at CMS)
- Former MS students on experiemental HEP
 - ◆ ARRAUT GUERRERO IVÁN DARÍO
 - ◆ ARRIETA DIAZ ENRIQUE
 - ◆ AVILÁN VARGAS NICOLAS GUILLERMO
 - ◆ BALAGUERA ANTOLINEZ ANDRES
 - ◆ BETANCOURTH MINGANQUER JAIME ALFREDO
 - ◆ BRAVO MEDINA SERGIO
 - ◆ BROCHERO CIFUENTES JAVIER ANDRÉS
 - ◆ BULA VILLARREAL CARLOS
 - ◆ CABRERA MORA ANDRÉS LEONARDO
 - ◆ CAICEDO SIERRA IVÁN DARÍO
 - ◆ CASTAÑEDA CORTÉS HÉCTOR MAURICIO
 - ◆ CASTRO ALARCON SONIA
 - ◆ ESCOBAR DÍAZ MANUEL JULIÁN
 - ◆ GARCIA BONILLA ALBA CAROLINA
 - ◆ GARCÍA DAZA FABIÁN ALONSO
 - ◆ GARCÍA ESCOVAR ANDRÉS
 - ◆ GOMEZ FAJARDO LUZ STELLA
 - ◆ GONZALEZ GAITAN SANTIAGO
 - ◆ GONZÁLEZ HERNÁNDEZ CARLOS FELIPE
 - ◆ HURTADO BETANCOUR JUAN CARLOS
 - ◆ MÉNDEZ ARENAS ANDRÉS FELIPE
 - ◆ MENDOZA NAVAS LUIS MIGUEL
 - ◆ MONROY CAÑÓN IGNACIO ALBERTO
 - ◆ MONROY MONTAÑEZ JOSÉ ANDRÉS
 - ◆ MUNEVAR ESPITIA EDWIN
 - ◆ OCAMPO RÍOS ANDRÉS ALBERTO
 - ◆ ORGANISTA RODRIGUEZ JOSE ORLANDO
 - ◆ PÉREZ VELÁSQUEZ JHOAN EDUAR
 - ◆ POSADA AGUIRRE NELSON CAMILO
 - ◆ PULIDO GONZÁLEZ WALTER ALEXIS
 - ◆ ROA ROMERO DIEGO ALEJANDRO
 - ◆ RODRIGUEZ GARZON JAIME

- ◆ RODRIGUEZ JIMENEZ JUAN MANUEL SALVADOR
- ◆ SALAMANCA BERNAL JULIAN ANDRES
- ◆ SOLER PULIDO JUAN DIEGO
- ◆ VARELA CARDOZO KARLA PATRICIA
- ◆ VEGA VARGAS ÁLVARO JAVIER
- Former MS students on experimental on theoretical HEP
- Former engineers

Publications

Theory publications

- Nowakowski [↗](#)
- Kelkar [↗](#)
- Roldan [↗](#)

Group members

General Information

CMS-Uniandes contact information

- Our **general purpose** mail list is: cms-uniandes@cernNOSPAMPLEASE.ch , our **physics** mail list is: cms-physics-uniandes@cernNOSPAMPLEASE.ch
- UniAndes at CERN
 - ◆ Uniandes Group Office at CERN [↗](#)
 - ◆ Configuring a printer at CERN (linux, win, macos)
- Look at the archive (authentication required): physics list [↗](#) general purpose list [↗](#)
- e-groups [↗](#) help [↗](#)

Events

- Our group meetings - Indico [↗](#)
- CMS Calendar [↗](#)
- CMS Weeks [↗](#)
- General Physics Meetings [↗](#) : Exotica [↗](#) : SUSY [↗](#)
- Escuela de Particulas (Twiki)
- XXV Congreso Nacional de Fisica - Colombia [↗](#)
- XXIV Congreso Nacional de Fisica - Colombia [↗](#)
- XXIII Congreso Nacional de Fisica - Colombia [↗](#)

Activities

- Universidad de los Andes High Energy Physics [↗](#)

Previous Physics Analysis on CMS

- SUSY
- HSCPs
- SUSYPlot
- EXOTICA

Hardware/Software

- Muon detectors - RPCs: RPC commissioning
 - ◆ Juan Carlos Sanabria TWiki
 - ◆ Camilo Carrillo TWiki
 - ◆ Alberto Ocampo TWiki
 - ◆ RPC Technical Trigger Emulator
- CMS-Preshower Collaboration

Publications

- Publications, Presentations

Computing Support

CMSSW

- Install CMSSW on your Laptop
- PAT Tutorials [?](#)
- Adding Condition Objects to your code - A user experience

UniAndes computing

- Para comenzar: pre-requisitos para estudiantes nuevos
- Servidor del Grupo de Altas Energías
- Tutorial 1: Generación de Eventos con CMSSW
- Tutorial 2: Analisis en CMSSW
- Tutorial 3: TBA
- Using the SVN-Uniandes repository

Distributed computing

- Tier 3 - Uniandes
- Using CRAB to submit jobs
- Tips on using the Grid
- Ganga CMSSW plugin

Tutorial de CMSSW - 2010

- Introducción y Generación de datos crudos
- Reconstrucción de Datos (RECO)
- Reconstrucción de Datos Específica PAT y PF2
- Crear un analizador
- Correr todo el proceso en GRID
- Usando crab para guardar en un Storage Element
- Usando el Servidor de Fisica
- Configurando el certificado de GRID
- Usando Root
- Obteniendo Histogramas

Useful Links

- [CMS](#)
- [CMS Secretariat contact page](#)
- [CERN Technical and Doctoral Student Guide](#)
- [User's Office](#)
- [Colciencias](#)
- [CERN](#)

Page customisation topic

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 - ◆ Set GROUP = JuanCarlosSanabria, BernardoGomez, CamiloCarrillo, AndresCabrera, JuanPabloGomez, EdgarEduardoRosalesRosero, LFernandaC, EdgarFajardo, AndresCarlosFlorezBustos
- Persons/group who can change the list:
 - ◆ Set ALLOWTOPICCHANGE = CMSUniandesGroup
- Change the colour configuration
 - ◆ Set USERCOLORSURL = <https://twiki.cern.ch/twiki/bin/viewfile/Main/CMSUniandesGroupConfig?rev=1;filename=colors.css>

Related topics: TWikiUsers, TWikiGroups, TWikiAccessControl

This topic: Main > CMSUniandesGroup

Topic revision: r74 - 2013-10-27 - AndresCarlosFlorezBustos



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