



# LHC Seminar

SPEAKER: Alvaro Gomes Dos Santos Neto (Univ. Federal do Rio de Janeiro (BR))

TITLE: **Evidence of CP violation in B  $\rightarrow$  hhh charmless decays**

DATE: Tue 02/10/2012 11:00

PLACE: Main Auditorium

## ABSTRACT

We present the first evidence of CP violation in the  $B^+ \rightarrow \pi^+ \pi^- \pi^+$ ,  $B^+ \rightarrow K^+ \pi^+ \pi^-$ ,  $B^+ \rightarrow K^+ K^- \pi^+$  and  $B^+ \rightarrow K^+ K^- K^+$  decays using the  $1.0 \text{ fb}^{-1}$  of data collected by the LHCb experiment during 2011. The results show that the  $3\pi$  and  $K\pi\pi$  channels present a positive asymmetry while the  $KK\pi$  and  $KKK$  modes present a negative asymmetry. We also study the variation of the CP violation effects in the phase space of each three-body decay. We find significant inhomogeneities that reveal regions with particularly large asymmetries in the  $\pi\pi$  and  $KK$  low mass regions in  $B^+ \rightarrow \pi^+ \pi^- \pi^+$  and  $B^+ \rightarrow K^+ K^- \pi^+$  respectively.