



# CERN Joint EP/PP Seminars

SPEAKER: Bruce Hoeneisen (University San Francisco of Quito)

TITLE: **Evidence for an anomalous like-sign dimuon charge asymmetry**

DATE: Mon 14/06/2010 11:00

PLACE: Council Chamber

## ABSTRACT

We measure the charge asymmetry  $A$  of like-sign dimuon events in  $6.1 \text{ fb}^{-1}$  of  $p \bar{p}$  collisions recorded with the D0 detector at a center-of-mass energy  $\sqrt{s} = 1.96 \text{ TeV}$  at the Fermilab Tevatron collider. From  $A$ , we extract the like-sign dimuon charge asymmetry in semileptonic  $b$ -hadron decays:  $A^{\text{b}_{\text{sl}}} = -0.00957 \pm 0.00251 \text{ (stat)} \pm 0.00146 \text{ (syst)}$ . This result differs by 3.2 standard deviations from the standard model prediction  $A^{\text{b}_{\text{sl}}}(\text{SM}) = (-2.3^{+0.5}_{-0.6}) \times 10^{-4}$  and provides first evidence of anomalous CP-violation in the mixing of neutral  $B$  mesons.