THEORETICAL PHYSICS SEMINAR

Title: Charged Higgs search prospects in bosonic decays
Speaker: Dr. Pankaj Sharma, Univ. of Adelaide
Date/Time/Venue: 30th Dec. (Friday)/2:30 PM/ Room No. 469

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Tea will be served at 3:30pm outside Room 469
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ABSTRACT

Anticipated in the current and future runs of the LHC is the discovery of a charged Higgs which would be an unequivocal evidence for new physics. In this talk, I will review the prospects of the LHC in accessing heavy charged Higgs boson signals in bbW final states, wherein the contributing channels can be H \to tb, hW, HW and AW. In particular, we devise a selection strategy which optimizes their global yield. We consider a 2-Higgs Doublet Model Type-II and we assume as production mode bg → tH− + c.c., the dominant one over the range MH ≥ 480 GeV, as dictated by b → sγ constraints. We further make use of jet substructure techniques for Higgs tagging and multivariate techniques such as boosted decision trees in order to maximize the discovery potential of charged Higgs in its bosonic decays.

All are welcome to attend