Department of Theoretical Physics

Free Meson Seminar

Speaker	:	Ashutosh Kumar Alok
Topic	:	Tension between scalar/pseudoscalar new physics contribution to $B_s \to \mu^+\mu^-$ $B \to K\mu^+\mu^-$
Day, Date & Time	:	Thursday, April 17, 2008 at 2:30 p.m.
Place	:	AG 69

Abstract

One of the major aims of the LHC is to look for Higgs particles within and beyond the standard model (SM). Therefore its worth considering the processes which are sensitive to scalar/pseudoscalar new physics (SPNP). We consider SPNP contribution to the branching ratios of $B_s \to \mu^+\mu^-$ and $B \to K\mu^+\mu^-$. We show that the upper bound on $B(B_s \to \mu^+\mu^-)$ sets a strong constraint on the possible SPNP contribution to $B(B \to K\mu^+\mu^-)$. Consequently an order of magnitude enhancement of $B(B_s \to \mu^+\mu^-)$ is ruled out if $B(B \to K\mu^+\mu^-)$ is greater than its SM prediction by more than a few per cent. We also find that SPNP cannot lower $B(B \to K\mu^+\mu^-)$ below its SM prediction.

(Saumen Datta)