

DISCRETE 2014: Fourth Symposium on Prospects in the Physics of Discrete Symmetries



Contribution ID: 102

Type: **not specified**

Exclusive $b \rightarrow s\gamma$ decays at Belle.

Tuesday 2 December 2014 18:55 (30 minutes)

We search for the decay $B_s \rightarrow \gamma\gamma$ and measure the branching fraction for $B_s \rightarrow \phi\gamma$ using 121.4fb^{-1} of data collected at the $\Upsilon(5S)$ resonance with the Belle detector at the KEKB asymmetric energy B-factory located at the High Energy Accelerator Research Organization (KEK), Japan. These are flavor changing neutral current processes involving the transition of a \textit{b} to \textit{s} quark which are extremely sensitive to new physics beyond the Standard Model. We measure the branching fraction of $B_s \rightarrow \phi\gamma$ to be $(3.6 \pm 0.5(\text{stat.}) \pm 0.3(\text{syst.}) \pm 0.6(f_s)) \times 10^{-5}$, which is in a good agreement with the theoretical predictions as well as a recent measurement from LHCb. We observe no statistically significant signal for the $B_s \rightarrow \gamma\gamma$ decay and set an upper limit at 3.1×10^{-6} at 90% C.L. Recent results on these decays will be presented in this talk.

Primary authors: Dr BHUYAN, Bipul (IIT Guwahati); Ms DUTTA, Deepanwita (IIT Guwahati)

Presenter: Ms DUTTA, Deepanwita (IIT Guwahati)

Session Classification: Parallel 4: Experiments-discrete-symmetries