



INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS

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Programme of Study : Ph.D.
Thesis Title : Search for the decay $B_{s^0} \rightarrow \pi^0 \pi^0$ at high luminosity electron-positron collider experiment
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SHORT ABSTRACT

We report the results of the first search for the decay $B_{s^0} \rightarrow \pi^0 \pi^0$ using 121.4 fb^{-1} of data collected at the $Y(5S)$ resonance with the Belle detector at the KEKB asymmetric-energy electron-positron collider. We observe no signal and set a 90% confidence level upper limit of 7.7×10^{-6} on the $B_{s^0} \rightarrow \pi^0 \pi^0$ decay branching fraction. Our result constitutes the first stringent upper limit set by the Belle experiment for this decay channel.