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Study of the $B_s^0 \to \phi\phi$ Decay and Measurement of its Branching Ratio with CDF LORENZO ORTOLAN, INFN Trieste, CDF COLLABORATION — We present a measurement of the $B_s^0 \to \phi\phi$ branching ratio using approximately 2.9 fb^{-1} of data collected with the CDF II detector at the Fermilab Tevatron. The first measurement of this decay mode was performed at CDF in 2005 using a 180 pb^{-1} data sample where eight signal events were seen. We select events in the displaced track trigger sample and optimize the event selection requirements. The procedure to optimize the selection and estimates of the expected background are described. The preliminary result for the branching ratio is in agreement with theoretical predictions and the previous analysis. It is now dominated by the experimental uncertainty in the $B_s^0 \to J/\psi\phi$ branching ratio which is used for normalization.

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