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Search for the rare decay $B_s \rightarrow \mu \mu$ at DØ

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The decay $B_s \rightarrow \mu \mu$ is heavily suppressed in the standard model, but many scenarios for physics beyond the standard model predict large enhancements in this process. We report an updated search for this decay using data collected by the DØ detector at the Fermilab Tevatron collider. We use the full Run II data set, corresponding to approximately 10.4 fb^{-1} of integrated luminosity in $p \bar{p}$ collisions at $\sqrt{s}=1.96 \text{ TeV}$. We determine that the branching ratio $\text{Br}(B_s \rightarrow \mu \mu)$ is less than 15×10^{-9} at the 95% CL.

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