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Measurement of the inclusive branching fractions for B_s decays into D mesons

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We report measurement of the B_s^0 absolute branching fractions $Br(B_s^0 \rightarrow D_s^\pm X)$, $Br(B_s^0 \rightarrow D^0/\bar{D}^0 X)$, and $Br(B_s^0 \rightarrow D^\pm X)$. The results are based on a sample of 121.4 fb^{-1} collected at the $\Upsilon(10860)$ resonance by the Belle detector at the KEKB asymmetric-energy e^+e^- collider. We perform full reconstruction of one B_s^0 meson in $e^+e^- \rightarrow \Upsilon(10860) \rightarrow B_s^* \bar{B}_s^*$ events and measure yields of D_s^+ , D^0 , and D^+ mesons in the rest of the event. We obtain $Br(B_s^0 \rightarrow D_s^\pm X) = (68.6 \pm 7.2 \pm 4.0)\%$, $Br(B_s^0 \rightarrow D^0/\bar{D}^0 X) = (21.5 \pm 6.1 \pm 1.8)\%$, and $Br(B_s^0 \rightarrow D^\pm X) = (12.6 \pm 4.6 \pm 1.3)\%$, where the first uncertainty is statistical and the second is systematic. The results for $Br(B_s^0 \rightarrow D_s^\pm X)$ and $Br(B_s^0 \rightarrow D^0/\bar{D}^0 X)$ are compatible with previous Belle measurements, the $Br(B_s^0 \rightarrow D^\pm X)$ is measured for the first time.

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