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Measurement of the Branching Fraction for $\mathbf{B}_s \to D_{s1}^\pm(\mathbf{2536})~\mu\nu X$ at $\mathbf{D} \mathcal{O}$ JASON RIEGER, Indiana University, DZERO COLLABORATION — The orbitally excited charm state $D_{s1}^\pm(2536)$ has been observed at $\mathbf{D} \mathcal{O}$ in the decay channel $B_s \to D_{s1}^\pm(2536)\mu\nu X$ with $D_{s1}^\pm(2536) \to D^{*\pm}K_S^0$. The $D_{s1}^\pm(2536)$ mass peak is presented with a signal significance of greater than 5.0σ and the branching fraction for the semileptonic decay to this state is measured in approximately 1 fb⁻¹ of data.

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