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Title:	First search for the $\eta c 2(1D)$ in B decays at Belle
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	Belle Decays Resonance
Issue Date:	2020
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Citation:	Journal of High Energy Physics, 34.
Abstract:	The first dedicated search for the $\eta c 2(1D)$ is carried out using the decays $B^+ \rightarrow \eta c 2(1D)K^+$, $B^0 \rightarrow \eta c 2(1D)K^0$, $B^0 \rightarrow \eta c 2(1D)\pi^-K^+$, and $B^+ \rightarrow \eta c 2(1D)\pi^+K^0$ with $\eta c 2(1D) \rightarrow h c \gamma$. No significant signal is found. For the $\eta c 2(1D)$ mass range between 3795 and 3845 MeV/c ² , the branching-fraction upper limits are determined to be $\mathcal{B}(B^+ \rightarrow \eta c 2(1D)K^+) \times \mathcal{B}(\eta c 2(1D) \rightarrow h c \gamma) < 3.7 \times 10^{-5}$, $\mathcal{B}(B^0 \rightarrow \eta c 2(1D)K^0) \times \mathcal{B}(\eta c 2(1D) \rightarrow h c \gamma) < 3.5 \times 10^{-5}$, $\mathcal{B}(B^0 \rightarrow \eta c 2(1D)\pi^-K^+) \times \mathcal{B}(\eta c 2(1D) \rightarrow h c \gamma) < 1.0 \times 10^{-4}$, and $\mathcal{B}(B^+ \rightarrow \eta c 2(1D)\pi^+K^0) \times \mathcal{B}(\eta c 2(1D) \rightarrow h c \gamma) < 1.1 \times 10^{-4}$ at 90% C.L. The analysis is based on the 711 fb ⁻¹ data sample collected on the $\Upsilon(4S)$ resonance by the Belle detector, which operated at the KEKB asymmetric-energy e ⁺ e ⁻ collider.
Description:	Only IISERM authors are available in the record.
URI:	https://link.springer.com/article/10.1007/JHEP05(2020)034 (https://link.springer.com/article/10.1007/JHEP05(2020)034) http://hdl.handle.net/123456789/3300 (http://hdl.handle.net/123456789/3300)
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