



Library Indian Institute of Science Education and Research Mohali



DSpace@IISERMohali (/jspui/)
/ Publications of IISER Mohali (/jspui/handle/123456789/4)
/ Research Articles (/jspui/handle/123456789/9)

Please use this identifier to cite or link to this item: <http://hdl.handle.net/123456789/1740>

Title:	Observation of $Y(2S) \rightarrow \gamma \eta_b(1S)$ Decay
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	Physics Asymmetric energy Branching fractions Decay mode Standard deviation Photon spectra
Issue Date:	2018
Publisher:	American Physical Society
Citation:	Physical Review Letters, 121(23).
Abstract:	We report the observation of $Y(2S) \rightarrow \gamma \eta_b(1S)$ decay based on an analysis of the inclusive photon spectrum of 24.7 fb^{-1} of e^+e^- collisions at the $Y(2S)$ center-of-mass energy collected with the Belle detector at the KEKB asymmetric-energy e^+e^- collider. We measure a branching fraction of $B[Y(2S) \rightarrow \gamma \eta_b(1S)] = (6.1 \pm 0.6 \pm 0.9 \pm 0.7 \pm 0.6) \times 10^{-4}$ and derive an $\eta_b(1S)$ mass of $9394.8 \pm 2.7 \pm 4.5 \pm 3.1 \pm 2.7 \text{ MeV}/c^2$, where the uncertainties are statistical and systematic, respectively. The significance of our measurement is greater than 7 standard deviations, constituting the first observation of this decay mode.
Description:	Only IISERM authors are available in the record.
URI:	https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.121.232001 (https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.121.232001) http://hdl.handle.net/123456789/1740 (http://hdl.handle.net/123456789/1740)
Appears in Collections:	Research Articles (/jspui/handle/123456789/9)

Files in This Item:

File	Description	Size	Format	
Need to add pdf.odt (/jspui/bitstream/123456789/1740/1/Need%20to%20add%20pdf.odt)		8.04 kB	OpenDocument Text	View/Open (/jspui/bitstream/123456789/1740/1/Need%20to%20add%20pdf.odt)

Show full item record (/jspui/handle/123456789/1740?mode=full)

(/jspui/handle/123456789/1740/statistics)

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.

