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Title:	Search for Axionlike Particles Produced in e+e- Collisions at Belle II
Authors:	Bhardwaj, V. (/jspui/browse?type=author&value=Bhardwaj%2C+V.)
Keywords:	SuperKEKB pseudoscalar e+e- Collisions
Issue Date:	2020
Publisher:	American Physical Society
Citation:	Physical Review Letters, 125(16)
Abstract:	We present a search for the direct production of a light pseudoscalar a decaying into two photons with the Belle II detector at the SuperKEKB collider. We search for the process $e^+e^- \rightarrow \gamma a$, $a \rightarrow \gamma\gamma$ in the mass range $0.2 < m_a < 9.7$ GeV/c ² using data corresponding to an integrated luminosity of (445 ± 3) pb ⁻¹ . Light pseudoscalars interacting predominantly with standard model gauge bosons (so-called axionlike particles or ALPs) are frequently postulated in extensions of the standard model. We find no evidence for ALPs and set 95% confidence level upper limits on the coupling strength $g_{a\gamma\gamma}$ of ALPs to photons at the level of 10^{-3} GeV ⁻¹ . The limits are the most restrictive to date for $0.2 < m_a < 1$ GeV/c ² .
Description:	Only IISERM authors are available in the record.
URI:	https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.125.161806 (https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.125.161806) http://hdl.handle.net/123456789/3283 (http://hdl.handle.net/123456789/3283)
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