

# SOURABH DUBE



## CONTACT

Main Building, A362  
Department of Physics  
Indian Institute of Science Education and Research, Pune  
Dr. Homi Bhabha Road  
Pune 411021

phone: +91 (20) 2590 8146  
sdube@iiserpune.ac.in  
<http://www.iiserpune.ac.in/~sdube>

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## POSITIONS

2018-present      **Associate Professor of Physics**  
Indian Institute of Science Education and Research (IISER), Pune  
2019-2022      **Associate Dean, International Relations and Outreach**  
2013-2018      **Assistant Professor of Physics, IISER Pune**  
2009 - 2013      **Chamberlain Fellow**  
Lawrence Berkeley National Laboratory, Berkeley, CA

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## EDUCATION

2008      **Ph.D. in Physics**, Rutgers, The State University of New Jersey  
2001      **B.Sc. in Physics**, University of Pune  
2000      Diploma (Scientific Computing) Fergusson College Consortium

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## COLLABORATION

2014-      **CMS Collaboration**, at the LHC, CERN  
2009-2014      **ATLAS Collaboration**, at the LHC, CERN  
2002-2009      **CDF Collaboration**, at the Tevatron, Fermilab

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## SELECTED PUBLICATIONS

*Inclusive nonresonant multilepton probes of new phenomena at  $\sqrt{s} = 13$  TeV.* The CMS Collaboration, Phys. Rev. D **105**, 112007 (2022).

*Search for physics beyond the standard model in multilepton final states in proton-proton collisions at  $\sqrt{s} = 13$  TeV.* The CMS Collaboration, JHEP **2020**, 51 (2020).

*Search for vector-like leptons in multilepton final states in pp collisions at  $\sqrt{s} = 13$  TeV.* The CMS Collaboration, Phys. Rev. D **100**, 052003 (2019).

*Lepton jets and low-mass sterile neutrinos at hadron colliders.* S. Dube, D. Gadkari, A. Thalpillil, Phys. Rev. D **96**, 055031 (2017)

*Search for evidence of Type-III seesaw mechanism in multilepton final states in pp collisions at  $\sqrt{s} = 13$  TeV.* The CMS Collaboration, Phys. Rev. Lett. **119**, 221802 (2017).

*Search for new phenomena in events with three or more charged leptons in pp collisions at  $\sqrt{s} = 8$  TeV with the ATLAS detector.* The ATLAS Collaboration, JHEP **08** (2015) 138.

*Search for microscopic black holes in a like-sign dimuon final state using large track multiplicity with the ATLAS detector.* The ATLAS Collaboration, Phys. Rev. D **88** 072001 (2013)

*Search for Supersymmetry in  $p\bar{p}$  Collisions at  $\sqrt{s} = 1.96$  TeV using the Trilepton Signature of Chargino-Neutralino Production.* The CDF Collaboration, Phys. Rev. Lett **101** , 251801 (2008).

*Addressing the Multi-Channel Inverse Problem at High Energy Colliders: A Model Independent Approach to the Search for New Physics with Trileptons.* S. Dube et al., J. Phys. G : Nucl. Part. Phys. **39** (2012) 085004.

*Production and Integration of the ATLAS Insertable B-layer,* B. Abbott et al., JINST **13** (2018), no.05, T05008.

*The FE-I4 pixel readout integrated circuit.* M. Garcia Sciveres et al., Nucl. Inst. and Meth. A, **636** (2011), p S155-S159.

The total number of publications is over 1280. A full list is available [here](#).

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## PROFESSIONAL AND OTHER ACTIVITIES

- Graduate advisees: Arnab Laha, Kumar Yash, Prachurjya Hazarika, Riya Sharma  
Dr. Kunal Kothekar (graduated 2019), Dr. Shubhanshu Chauhan (2019),  
Dr. Anshul Kapoor (2019), Dr. Angira Rastogi (2022)
  - Master's thesis advisees: Aparna Jayaraj, Chitrakshee Yede, Vipul Pawar (2020),  
Steenu Johnson (2019), Divya Gadkari (2017), Sai Neha Santpur (2016)
  - Referee for APS journals, Physics Letters B, EPJC, JHEP, Cambridge University Press
  - co-PI of MS-DEED program (IISER Pune in collaboration with MSFDA)
  - co-PI of iRISE program (DST, IISER Pune, RSC, British Council, Tata Technologies, Tata Trusts)
  - Member of Board of Studies (Physics), Fergusson College, Pune.
  - Member of IISER Joint Admissions Committee, 2016, 2017, 2018, 2019.
  - Faculty coordinator: Photography Club, Hindi Club (2019-21), Karavaan 2014,2022, Mimamsa 2016.
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## SELECTED INVITED TALKS

August 2022	“Analogies, Visualizations, and Humor in the class”, Physics session at MS-DEED Level 2 Workshop, IISER Pune.
July 2022	“Experimental methods for physics at the LHC”, (6 lectures) 28 <sup>th</sup> Vietnam School of Physics, Quy Nhon
April 2022	“Nonresonant multilepton probes of BSM phenomena”, IISER-P Physics Colloquium
February 2021	“Unsolved problems in particle physics”, SCOSH, NIT Surat
August 2020	“Introduction to Neural Networks”, India-CMS Lecture Series
Sep 2019	“Fundamental particles and the machines that find them”, MIT Academy of Engineering, Pune
April 2018	“Rocking the Seesaw at CMS”, Colloquium at NISER, Bhubaneswar
September 2017	“Searches for Exotics at CMS”, Light Cone 2017, Univ. of Mumbai
June 2017	“Aaplya wishwache sarwat chote tukade”, Vidnyan Gappa at Garware College, Pune (This talk was given in Marathi).
January 2017	“Searches with unusual objects”, Jets@LHC, ICTS, Bangalore