

SOURABH DUBE



CONTACT

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POSITIONS

2024-present **Professor of Physics**
Indian Institute of Science Education and Research (IISER), Pune
2013/2018-2024 **Assistant/Associate Professor of Physics**, IISER Pune
2019-2022 **Associate Dean, International Relations and Outreach**, IISER Pune
2009 - 2013 **Chamberlain Fellow**, Lawrence Berkeley National Laboratory, Berkeley

EDUCATION

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

COLLABORATION

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

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. Thalapillil, 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 1300. A full list is available [here](#).

PROFESSIONAL AND OTHER ACTIVITIES

- Graduate advisees: Arnab Laha, Kumar Yash, Prachurjya Hazarika, Riya Sharma
Dr. Kothekar (graduated 2019), Dr. Chauhan (2019), Dr. Kapoor (2019), Dr. Rastogi (2022)
 - Master's thesis advisees: Shreyas Bakare, Shriyansh Ranjan, P. Banerjee (2024), S. Sarkar (2024),
C. Yede (2023), A. Jayaraj (2023), V. Pawar (2020), S. Johnson (2019), D. Gadkari (2017),
S. N. 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 (2016-2020).
 - Member of IISER Joint Admissions Committee (2016-2019).
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SELECTED INVITED TALKS

July 2023	“What research means to me as an adult”, Keynote talk at 2nd International Conference on Research Frontiers in Sciences-2023, G.H. Rasoni College, Nagpur
December 2022	“Detectors in high energy physics”, 1st National workshop on GEANT4 and its application to high energy physics and astrophysics, IUCAA
December 2022	“Analogies, Visualizations, and Humor in the class”, Physics session
August 2022	at MS-DEED Level 2 Workshop, IISER Pune
July 2022	“Experimental methods for physics at the LHC”, (6 lectures) 28 th Vietnam School of Physics, Quy Nhon
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
January 2017	“Searches with unusual objects”, Jets@LHC, ICTS, Bangalore