Dinesh Kumar

Department of Physics
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Education

2011–2017 **Ph.D degree in Theoretical High Energy Physics**.
Obtained Ph.D degree in Theoretical High Energy Physics in the year 2017 from Indian Institute of Technology, Bombay, India.

2009–2011 **M.Sc degree**.
Obtained M.Sc degree in Physics in the year 2011 from University of Rajasthan, Jaipur, India

Research Interests

Particle physics phenomenology beyond the Standard Model with special emphasis on B-physics program at CERN and Super-B factories; Neutrino Physics; Top quark physics

Experience

December 2013-present **Assistnant Professor**.
More than five years of teaching experience at UG and PG level

Computational Skills

Programing languages: Fortran, C, Python.

Software and packages: MINUIT, Flavio, SuperIso, Mathematica, FeynCalc

Full List of publications(The number of citations are upto December-2018)

New Physics in $b \to s\mu^+\mu^-$ after the Measurement of R_{K^*}, Ashutosh Kumar Alok, Bhubanjyoti Bhattacharya, Alakabha Datta, Dinesh Kumar, Jacky Kumar and David London.
Published in Phys.Rev. D96 (2017), 095009, 90 citations

New-physics signals of a model with a vector-singlet up-type quark, Ashutosh Kumar Alok, S. Banerjee, Dinesh Kumar, S. Uma Sankar and David London.
Published in Phys.Rev. D92 (2015) 013002, 39 citations

D^* polarization as a probe to discriminate new physics in $B \to D^*\tau\bar{\nu}$, Ashutosh Kumar Alok, Dinesh Kumar, Suman Kumbhakar and S. Uma Sankar.
Published in Phys.Rev. D95 (2017) no.11, 115038, 46 citations

Flavor signatures of isosinglet vector-like down quark model, Ashutosh Kumar Alok, S. Banerjee, Dinesh Kumar and S. Uma Sankar.
Published in Nucl.Phys. B906 (2016) 321-341, 23 citations

New Physics in $b \to s\mu^+\mu^-$: Distinguishing Models through CP-Violating Effects, Ashutosh Kumar Alok, Bhubanjyoti Bhattacharya, Dinesh Kumar, Jacky Kumar , David London and S. Uma Sankar .
Published in Phys.Rev. D96 (2017) no.1, 015034, 30 citations

Probing new physics through $B_s^* \to \mu^+\mu^-$ decay, Dinesh Kumar, Jyoti Saini, Shireen Gangal and S. B. Das.
Published in Phys.Rev. D97 (2018) no.3, 035007, 02 citations

New physics solutions for R_D and R_{D^*}, Ashutosh Kumar Alok, Dinesh Kumar, Jacky Kumar, Suman Kumbhakar and S. Uma Sankar.
Published in JHEP 1809 (2018) 152, 23 citations

Lepton flavor non-universality in the B-sector: a global analyses of various new physics models, Ashutosh Kumar Alok, Dinesh Kumar, Jacky Kumar and Ruchi Sharma.
e-Print: arXiv:1704.07347, 38 citations

Geometric phase and neutrino mass hierarchy problem, K. Dixit, A. K. Alok, S. Banerjee, Dinesh Kumar.
Published in J.Phys. G45 (2018) no.8, 085002

Resoultion of R_D/R_{D^*} puzzle, Ashutosh Kumar Alok, Dinesh Kumar, Suman Kumbhakar and S. Uma Sankar.
Published in Phys.Lett. B784 (2018) 16-20, 06 citations

Conference proceedings

Study of $D*$ polarization to discriminate new physics in $B \to D * \tau\nu$, Suman Kumbhakar,Ashutosh Kumar Alok, Dinesh Kumar and S. Uma Sankar.
Published in Springer Proc.Phys. 203 (2018) 737-739

$D*$ polarization as a probe to discriminate new physics in $B \to D * \tau\nu$, S. Uma Sankar,Ashutosh Kumar Alok, Dinesh Kumar and Suman Kumbhakar.
Published in PoS EPS-HEP2017 (2017) 675

New-physics signals of a model with an isosinglet vector-like t' quark , Ashutosh Kumar Alok, S. Banerjee, Dinesh Kumar, S. Uma Sankar and David London.
Published in PoS EPS-HEP2015 (2015) 579

Conference/Workshop/School:

16^{th} Conference on Flavor Physics & CP Violation (FPCP 2018), Hyderabad, India, July 14 -18, 2018

CERN-FERMILAB Hadron Collider Physics Summer School - 2017, CERN, Geneva, Switzerland, August 28 - September 6, 2017.

9^{th} International workshop on the CKM Unitarity Triangle (CKM 2016), Mumbai, India, November 28 - December 2, 2016.

Summer School on "Theory challenges for LHC physics" and workshop "Calculations for Modern and Future Colliders",Dubna, Russia,July 20-30, 2015.

The Second Asia-Europe-Pacific School of High-Energy Physics(AEPSHEP), Puri, India, November 4 - 17, 2014.

SERC School (Main) in Theoretical High Energy Physics,IIT, Kanpur (India), November 11 - 30, 2013.

Organized SYMPHY-2013 , The annual symposium of Department of Physics, IIT Bombay.

CP Violation in Elementary Particles and Composite Systems,Mahabaleshwar, Maharashtra (India), Feb. 07 - 23, 2013.

SERC School (Preparatory) in Theoretical High Energy Physics, Siliguri, North Bengal (India), September 12 - October 9, 2012.

Books:

Two units contribution in "Mathematical Physics and Numerical Analysis", ISBN No. : 978-81-8496-528-5

. One unit contribution in "Physics Lab I", ISBN No. : 978-81-8496-531-5

. One unit contribution in "Physics Lab II", ISBN No. : 978-81-8496-600-8

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