



LHCb Experiment- Particle Physics Group  
Max Planck Institute for Nuclear Physics  
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## Lina ALASFAR

- appointments** Researcher (LHCb experiment):: Max Planck Institute for Nuclear Physics Heidelberg. (Germany), (**Current**)  
Researcher, Laboratoire de Physique Corpusculaire Clermont-Ferrand. (France), Feb. 2018–Jul 2018.  
Demonstrator, King Saud University University,(Saudi Arabia) May 2016–May 2017.
- languages** Arabic, Mother language  
English, Fluent  
French, Intermediate  
German, Basic
- education** Master-II with *Honour Mention* (equiv. MRes.), Particle Physics and the Universe, Université Clermont-Auvergne. (Clermont-FD, France) 2018.  
Dissertation: *Search for the  $B \rightarrow K^*(892)\tau\tau$  decay with the LHCb spectrometer for testing lepton universality in quark transitions.*  
B.Sc. Physics-First Class Honour, King Saud University,(Saudi Arabia) 2016.
- publications** *Journal articles*
1. Alsaleh, S. and Alasfar L. 2017 “ER= EPR and Non-Perturbative Action Integrals for Quantum Gravity. *Int. J. Geom. Methods Mod. Phys* Vol. 14
  2. Mir Faizal, Amani Ashour, Mohammad Alcheikh, Lina Al Asfar, Salwa Alsaleh, Ahmed Mahroussah 2017 “ Quantum Fluctuations from Thermal Fluctuations in Jacobson Formalism ” *Eur. Phys. J. C* 77:608
  3. Momeni,D ; Myrzakul,A. ; Myrzakulov, R. ; Faizal,M.; Alsaleh, S. and Alasfar, L. 2017 “ Thermodynamics of AdS spacetime via Regularized Fidelity Susceptibility ” Under Review in *Eur. Phys. J. C*
  4. B. Pourhassan, M. Faizal, S. Upadhyay and L. A. Asfar 2017, “ Thermal Fluctuations in a Hyperscaling Violation Background,” *Eur. Phys. J. C* 77

5. S. Alsaleh, L. Alasfar, M. Faizal and A. F. Ali. 2018 “[Quantum no-singularity theorem from geometric flows](#)” Int. J. Geom. Methods Mod. Phys
6. L. Alasfar, S. Alsaleh, A. Farag Ali and E. Vagenas. 2018 “[The GUP and quantum Raychaudhuri equation](#)” Nuclear Physics B
7. A. Bhat, S. Alsaleh, D. Momeni, A. Rehman, Z. Zaz, M. Faizal, A. Jellal and L. Alasfar 2018 “[Time-Dependent Strain in Graphene](#)” Europhysical Journal B .
8. M. C. Braidotti, C. Conti, M. Faizal, S. Dey, L. Alasfar, S. Alsaleh and A. Ashour, “[Path Integral for Non-Paraxial Optics](#)” *Euro Physics Letters (EPL)*.

## teaching

*Undergraduate courses*

**King Saud University- tutorials** : Quantum mechanics, statistical physics, modern physics. .

**King Saud University- labs** : Electromagnetism, nuclear physics, wave physics and general physics .

Research  
experience

## Experimental particle physics

Involving low-level data analysis, programming in C++ with (ROOT), python (data analysis and machine learning) and GO.

## Theoretical particle physics

Basic knowledge of some FROTRAN algorithms for simulating particle interactions like *Madgraph* and *Delphes*.

Phenomenology of quantum gravity

Writing research articles

Using  $\text{\LaTeX}$ , and other tools like **FeynDiagram** library.

service to the  
community  
and profession

Writing scientific articles for non-technical scientific journals for the public (Al-Quafila Journal and Scientific Saudi)

Judging science research contest organised by King Saud University.

research  
interests

Experiments and phenomenology of beyond standard model in the flavour sector.