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 No.H56 HAY OULED AMAR, Jerada, Morocco



PhD Particle Physics

Bio. I hold a PhD degree in High Energy Physics from Mohammed V University, Rabat Morocco, I'm working on data analysis of the ATLAS experiment.

Research Interest. My Ph.D research work concerns light-by-light scattering in heavy ions collision.

I did a qualification task entitled "Tuning Argon Emulation in the Simulation of the ATLAS Transition Radiation Tracker".

I'm also involved with the Moroccan team taking part in the KM3NeT neutrino telescope collaboration and Digital Optical Module (DOM) integration.

Education

Nov 2016 - February 2021	PhD particle physics ATLAS experiment. Observation of light-by-light scattering in heavy-ion collisions with the ATLAS detector at the LHC <i>Mohammed V University</i> Rabat, Morocco. <i>Supervisor: Prof. Yahya Tayalati.</i>
Nov 2014 – Sep 2016	Master Physics of matter and radiation. <i>Faculty of sciences, Mohammed I University</i> Oujda, Morocco. <i>Supervisor: Prof. Fouad Fethi.</i>
Nov 2011 – Sep 2014	Bachelor science of physical matter. <i>Faculty of sciences, Mohammed I University</i> Oujda, Morocco.
July 2011	High School Diploma , Experimental Sciences, Option : Physics Science. <i>Zerktouni High School</i> , Jerada, Morocco.

Publication

- Aad G, Abbott B, Abbott DC, et al. Observation of Light-by-Light Scattering in Ultraperipheral Pb+Pb Collisions with the ATLAS Detector. *Physical Review Letters* 2019;123.
- Collaboration A. Measurement of light-by-light scattering and search for axion-like particles with 2.2 nb⁻¹ of Pb+Pb data with the ATLAS detector. 2020. arXiv: [2008.05355](https://arxiv.org/abs/2008.05355) [[hep-ex](#)].
- Schoeffel L, Baldenegro C, Hamdaoui H, Hassani S, Royon C, and Saimpert M. Photon-photon physics at the LHC and laser beam experiments, present and future. 2020. arXiv: [2010.07855](https://arxiv.org/abs/2010.07855) [[hep-ph](#)].
- Search for invisible Higgs boson decays with vector boson fusion signatures with the ATLAS detector using an integrated luminosity of 139 fb⁻¹. 2020.
- Aiello S, Ameli F, Andre M, et al. The Control Unit of the KM3NeT Data Acquisition System. *Computer Physics Communications* 2020;256:107433.

Full list in Inspire : [H.Hamdaoui.2](https://arxiv.org/abs/2008.05355)

Research and teaching activities

July 31, 2019	Publication , <i>Observation of Light-by-Light Scattering in Ultraperipheral Pb+Pb Collisions with the ATLAS Detector</i> . <i>Phys. Rev. Lett.</i> 123, 052001.
since 30 September 2019	Teaching , <i>Faculty of sciences</i> , Rabat, Morocco. Nuclear Physics Practical Work for bachelor students.
28 Aout - 6 Sep 2019	Participation , <i>European Center for Nuclear Research (CERN)</i> , Genève, Suisse. The CERN-Fermilab Hadron Collider Physics Summer Schools.
July 31, 2019	Publication , <i>Observation of Light-by-Light Scattering in Ultraperipheral Pb+Pb Collisions with the ATLAS Detector</i> . <i>Phys. Rev. Lett.</i> 123, 052001.
May 24 – July 19, 2019	Training , <i>Faculty of sciences</i> , Rabat, Morocco. University pedagogy.
March 2019	Participation , <i>La Thuile 2019 - Les Rencontres de Physique de la Vallée d'Aoste</i> , La Thuile, Italy The XXXIII Workshop in Particle Physics
Feb 22 – March 9 2019	Training , <i>Faculty of sciences</i> , Rabat, Morocco. Scientific Publishing.
December 2018	Participation , <i>Faculty of sciences Ben M'Sik</i> , Casablanca, Morocco The 9th edition of the National Meeting for Youth Researchers in Physics.
September 2018	Qualification , <i>ATLAS experiment, CERN</i> , Geneva, Switzerland. Qualification as an ATLAS author.

	Task : Tuning Argon Emulation in Simulation of the ATLAS Transition Radiation Tracker.
October 2018	Participation & Organization , <i>Faculty of sciences</i> , Rabat, Morocco 5th Edition of the Franco-Moroccan School of Nuclear Measurement and Instrumentation. EFMMIN5
6-17 August 2018	Award , <i>National Center for Physics (NCP)</i> , Islamabad , Pakistan. 1st Prize in presentation Competitions .
6-17 August 2018	Participation , <i>National Center for Physics (NCP)</i> , Islamabad , Pakistan. 7th School on LHC Physics . slp-2018
July 2018	Oral Communication , <i>Namibia University of sciences and technology</i> , Windhoek, Namibia. First Biennial African Conference on Fundamental Physics and Applications. ACP2018
June 2018 – July 2018	Participation , <i>University of Namibia</i> , Windhoek, Namibia. Fifth African School of Fundamental Physics and its Applications. ASP2018
Avril 2018	Participation , <i>VBSCan COST network</i> , Maratea, Italy. The first spring school for electroweak symmetry breaking. EWSB
April – May 2018	Traineeship , <i>European Center for Nuclear Research (CERN)</i> , Geneva, Switzerland. Group : Transition Radiation Tracker.
February 2018	Organization , <i>Victor Hugo High School</i> , Marrakesh, Morocco. ATLAS Master Classes (Hands on particles physics). Link
February 2018	Participation & Organization , <i>Mohammed V University</i> , Rabat, Morocco. KM3NeT/Antares collaboration meeting.
October – November 2017	Traineeship , <i>European Center for Nuclear Research (CERN)</i> , Geneva, Switzerland. Group : Transition Radiation Tracker.
October 2017	Participation , <i>Erlangen Centre for Astroparticle Physics</i> , Obertrubach-Bärnfels, Germany. School for Astroparticle Physics. SAT
May 6 – June 3 2017	Training , <i>Faculty of sciences</i> , Rabat, Morocco. Management of organisations.
April 21, 2017	Training , <i>Faculty of sciences</i> , Rabat, Morocco. Entrepreneurship and creativity.
Feb 17 – April 14 2017	Training , <i>Faculty of sciences</i> , Rabat, Morocco. Scientific Research Methodology.
February 8, 2017	Training , <i>Faculty of sciences</i> , Rabat, Morocco. Research tools and access to scientific documentation.
September 2016	Participation , <i>Faculty of sciences Ben M'Sik</i> , Casablanca, Morocco. 1st International Conference on Theoretical Physics and High Energy Physics (ICTHP-2016)

☰ Skills

Programming:	C/C++, Python, SQL, Matlab, LaTeX, HTML, CSS, Shell scripting ...
Software and Tools:	ROOT, Geant4, Origin, Unscrambler, FLUKA, Git, Android studio ...
Frameworks:	Django, TurboGears, Flask...
Operating Systems:	Windows, Linux, Unix
ATLAS software:	Athena, AthenaMT, Analysis Releases, TRTframework, TRT_Digitization ...
KM3NeT software:	DOM Test Bench software, DOM integration assistant, DAQ Software ...
Management:	Web manager of ESMaR group
Personal:	Multitasking , organized, analytical mind ...

🗣️ Languages

Arabic:	Reading	● ● ● ● ●	French:	Reading	● ● ● ● ●	English:	Reading	● ● ● ● ●
	Listening	● ● ● ● ●		Listening	● ● ● ● ●		Listening	● ● ● ● ○
	Speaking	● ● ● ● ●		Speaking	● ● ● ● ○		Speaking	● ● ● ● ○

💡 Interests

Sports:	Football, Biking, Hiking,...
Arts:	Photography, Cinema.
Misc:	Traveling, Internet, Reading, Ex member of Moroccan association for development action,...

(*gaps =summer holiday)
(last update: February 28, 2021)