Dr. IJAZ AHMED (PhD-Physics)

Personal Information

Nationality: Pakistani
Date of Birth: December 16, 1975 Gender: Male Martial Status: Married
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ORCID: 0000-0002-3210-8302 h-index: 142 Papers: 632 Citations: 89,311

Research Interests

High Energy Physics Experiments, Collider physics phenomenology, Standard Model Physics and beyond, Gaseous Detectors and Particle Colliders Phenomenology

Employment History

1st July 2022-till date: **Associate Professor:** Applied Physics Department, Federal Urdu University for Arts, Science and Technology, Islamabad Campus

Sep 17 – 1st Jul 2022: **Associate Professor:** Physics Department, Riphah International University Islamabad

Mar 2014–Oct. 2016: **Visiting Senior Research Fellow**, National Centre for Particle Physics (NCPP), University of Malaya (UM) Kuala Lumpur, Malaysia.
Supervisor: Prof. Wan Ahmad Tajuddin Abdullah
Experiment: Compact Muon Solenoid (CMS)
CMS Endcap RPC Beam Test at Gamma Irradiation Facility (GIF++) with SPS H4 beam at EHN1 test hall, Heavy charged Higgs Analysis in the single top s channel production in MSSM at LHC using 8 TeV data and phenomenology

Feb 2010 – Dec 2016: **Assistant Professor (Tenure Track System):** COMSATS Institute of Information Technology (CIIT) Islamabad, Pakistan.
Supervisor: Jean Pierre Revol, Fedrico Antinori
Experiment: A Large Ion Collider Experiment (ALICE)
Quality Assurance of LHC data, Charged particle Multiplicity measurement in different Diffractive events.
Set up collaboration with CERN's ALICE experiment

Jul 2009 – Feb 2010: **Post Doctoral Fellow:** National Centre for Physics (NCP) Islamabad, Pakistan
Supervisor: Prof. Hafeez R. Hoorani
Experiment: Compact Muon Solenoid (CMS)
Top quark mass measurement in Top Antitop pair production using LHC data of CMS experiment.

Jun 2007 – Jan 2009: **Visiting Research Scientist:** European Organization for Nuclear Research (CERN), Geneva, Switzerland
Supervisor: Helmut Burkhardt, Daniel Schulte
Experiment: Compact Linear Collider (CLIC)
Beam Dynamics simulation and analytical calculation of Halo and tail particles in Beam Delivery System (BDS) of main LINAC of CLIC.

- Conceptual design of Postcollision line and benchmarking of tracking codes

Co author of Halo and tail particle event generator code titled “HTGEN”

Formal Education

Apr 2002 – Apr 2009: **PhD Research Scholar**, National Centre for Physics (NCP), QuaidiAzam University (QAU), Islamabad Pakistan and at CERN Laboratory, Geneva Switzerland.
Doctorate in Experimental High Energy Physics at Quaid I Azam University (QAU) Islamabad and CERN Laboratory, Geneva Switzerland
Supervisor: Hafeez R. Hoorani, , Martijn Mulders
Thesis title “**Testing of CMS Endcap RPC and determination of top quark mass using high Pt jets at LHC**”, http://cds.cern.ch/record/1311223
Assemble the two fullscale Endcap RPC prototypes RPC/PKp2 (2002) and RPC/PKp3 (2003). Construction of small double gap RPC and testing.
CMS detector simulation of top antitop pairs in lepton+jets channel at LHC to measure the top quark mass using Highly boosted Jets.

2000 2002	**Master of Philosophy in Experimental High Energy Physics,** QuaidiAzam University, Islamabad Pakistan. Dissertation: "**Study of Gas Gaps Required for the CMS Muon system"**
1998 2000	**Master of Science in Physics**, Punjab University Lahore Pakistan
1994 - 1998	**Bachelor of Science** in Maths &Physics, Rawalpindi Board Pakistan

Distinction/ Recognition

- Ranked at **10th** position among "**The Top Ten Most Productive Scientist of Pakistan**" of year 2013 among all science disciplines and **1st** in Physics, according to list released by Pakistan Council of Science and Technology (PCST). https://fp.brecorder.com/2014/08/201408101211422/
- **Peer Reviewer** of "Measurement" Journal of the International Measurement Confederation" by ELSEVIER
- **Peer Reviewer** of "Journal of Physics G: Nuclear and Particle Physics"
- Recipient of PhD fellowship from **World Laboratory of World Federation of Scientist**, Lausanne Switzerland.
- Member of experiments at CERN Laboratory, Geneva Switzerland (1) CMS experiment (2002 2007, 2014 2016), (2) Compact Linear Collider (CLIC) project (2007 – to 2009), (3) A Large Ion Collider Experiment (ALICE) (2010 – 2014)
- Coauthor of more than 630 research papers in the world's best and reputed journals.
- Author of Beam Halo and tail particle Monte Carlo generator for Compact Linear Colliders (CLIC) entitled "HTGEN"
- Played a key role in setting up collaboration to achieve "Associate membership of ALICE Experiment" for COMSATS Institute of Information Technology Islamabad.
- Approved PhD supervisor by Higher Education Commission (HEC) of Pakistan.
- Research Productivity Award 2016 from Pakistan Council of Science and Technology (PCST

Supervision/ Mentoring

Graduate Level

1). Muhd Hafizuddin AlHelmy, PhD studies in University of Malaya, **"Analysis of B Factory Events in Belle II Detector via CDC at SuperKEKB**" @ University of Malaya (completed)

2). Fahmi Maulida, Master studies in University of Malaya, **"Underlying Event Measurement in ttbar Dilepton channel with CMS Detector**", (completed)

3). Miriam Fitterer,Universit, Master student, Karlsruhe (TH), Germany "**Halo and Tail Simulations with Applications to the CLIC Drive Beam"** at CERN Geneva Switzerland. (completed)

4). **Nadia Kausar (PhD Physics), "Exploring the Discovery Potential of Beyond Standard Model Higgs Boson at the Future Particle Colliders" (completed)**

5). Fazal Khaliq (Master in Physics), **"The pair production of the heavy charged gauge bosons in protonproton collisions at $\sqrt{s}$= 8 TeV** " (completed)

6). Tahseen Ali (M. Phil Physics), **"Measurement of the underlying event in t t dilepton events at $\sqrt{s}$ =13 TeV "** (completed)

7). Shahid Mushtaq (M. Phil Physics), **"Sources of Charged Higgs Pair production through Double or Triple Higgs Production at Linear Colliders"** (completed)

8). Yaseen Ahmad (M. Phil Physics), **"Study of QCD jets Algorithms at LHC"** (completed)

9). Imran Khan (M. Phil Physics), **"Charged Higgs study in the s-channel single top production at LHC"** (completed)

10). Saadia Farooq (M. Phil Physics), "**Quality control of Gas Electron Multiplier for CMS experiment**" (completed)

11). Abu Zar (M. Phil Physics), "**Higgs Decays in Minimal Super symmetric Standard Model"** (completed)

12). Qasim Shah (M. Phil Physics), **"Search for neutral Higgs bosons within type I at future linear collider**", (completed)

13). M. Rizwan (M. Phil Physics), **"Top Quark Tagging through single top production at LHC",** (completed)

14). Shamsa Kanwal (M. Phil Physics), **"Simulation of transport parameters in gas filled detectors",** (completed)
15). Munazza Jamshaed (M. Phil Physics), **"Study of Primary Ionization in gaseous detector",** (completed)
16). Muhammad Danish Aslam (M. Phil Physics), **"Analysis of trilinear Higgs self coupling in Two Higgs Doublet Model at lepton collider",** (completed)
17). Sehrish Gul (M. Phil Physics), **"Correlation between the scaling factor of the yukawa coupling and cross-section for the $e^+e^- \rightarrow hhff (f \neq t)$ in t ype 1 2HDM.** (completed)
18). Ujala Nawaz (M. Phil Physics), **"Study of tripl higgs production cross-section at e+e- collider**", (completed)
19). Muhammad Amir (M. Phil Physics), "**Inclusive Higgs pair Production through gauge boson fusion at Linear Collider",** (completed)
20). Murad Badshah (M. Phil Physics), **"Limits on the Charged Higgs Parameters in the Two Higgs Doublet Model",** (completed)
21). Wajahat Sagheer (M. Phil Physics), "**Analysis of charged higgs pair production and its bosonic decay at Compact Linear Collider**", (completed)
22). Ameer Mukhtar (M.Phil Physics), **"Study of (anti)triton production in pp or Pb-Pb or pPb collisions at 5.02 TeV with ALICE",** (completed)
23). Muhammad Afzaal Sadaqat (M. Phil Physics) "**Simulation of RPC detection efficiency using 511 keV photon from PET using Geant4 framework**", (completed)
24). Muhammad Waqas (M. Phil Physics) **"Application of Deep Learning in Single top quark Production at LHC** ", (completed)
25). Anwarzada (M. Phil Physics) **"Applying the Neural Network based Models in the top Pair Production at LHC**", (completed)
26). Nazima Bibi (M. Phil Physics) **"Study of Triple top quark production at LHC**", (completed)
27). Muhammad Saqlain (M. Phil Physics) **"Simulation of Gas gain fluctuation in Resistive Plate Chambers**", (completed)
28). Amna Tariq (M. Phil Physics) **"Study of Charged Higgs associated production in $PP \rightarrow H/A \rightarrow H^{\pm}W^{\mp}$ in Two Higgs Doublet Model at LHC ",** (completed)
29). Waqas Ahmad (M.Phil Physics), **"Charged Higgs bosonic decays in 2HDM type I",** (completed)
30). Faisal Muhammad Hayat (M. Phil Physics), **"Searching dark matter candidate in the in the neutral higgs pair production in the Inert Higgs Doublet Model",** (completed)
31). Ali Hassan (M.Phil Physics), "**Study of Charged Higgs Pair Production in the parameter space of Inert Higgs Doublet Model",** (completed)
32). Ghulam Abbas (M.Phil Physics), **"Hadrontherapy: a Geant4-Based Tool for Proton/Ion-Therapy Studies",** (completed)
33). Mashal Malik (M.Phil Physics), "**Role of Beam Polarization at Future High Energy Lepton Collider",** (completed)
34). Tehreem Tariq (M.Phil Physics), **"Multiple Weak Gauge Boson Production at the Future Colliders as a Probe of Hard Scattering Processes",** (completed)
35). Umer Farooq (M.Phil Physics), **"Higgs pair production in $\mu^+\mu^-$ Annihilation and vector boson fusion at Multi-TeV Muon Collider",** (completed)
36). Ibad Mehmood Khan (M.Phil Physics), **"Multiple top quarks Events as a probe of additional Higgs bosons in Two Higgs Doublet Model at Future Colliders",** (completed)
37). Hafsa Perveen (M.Phil Physics), "**Observability of 2HDM di-Higgs production in $pp \rightarrow H^{\pm}h \rightarrow W^{\pm(*)}hh \rightarrow l\nu_l$+4b (l = e, μ) at LHC**", (completed)
38). Touqeer Shafi (M.Phil Physics), "**Study of kinematical distributions of $pp \rightarrow H \pm A \rightarrow W \pm(*) AA \rightarrow l\nu\, l$ +4b (l = e,μ) in Two Higgs Doublet Model**", (completed)
39). Danish Malik (M.Phil Physics), "**Study of strange particle production from RHIC to LHC energies",** (completed)
40). Muhammad Rateeb Butt (M.Phil Physics), "**Study of identified particle production from RHIC to LHC energies**", (completed)

41). **Sumaira Akram (PhD Physics), "Phenomenology of Beyond Standard Model Higgs Boson at Future Colliders", (in progress)**
42). Abdul Quddus (M.Phil Physics), "**Deep Learning in search of Charged Higgs Boson at Gamma-Gamma Collider in Two Higgs Doublet Model**", (completed)
43). Usman Ahmad (M.Phil Physics), "**Leptoquark searches at TeV scale using neural networks at hadron collider**", (completed)
44). 42. Sidra Saliheen (M.Phil Physics), "**Magnetic Monopole Production via Photon fusion and Drell Yan processes at Future Colliders**", (in progress)

Selected Publications
Main Author

43). Daneyal Ahmad (M.Phil Physics), "**Composite Vector Leptoquarks production and its decays at e+e-, e-gamma and gamma-gamma colliders**", (in progress)
44). Sami Ullah (M.Phil Physics), "**Probing Triple Higgs Production via 6b decay channel at hadron colliders"**, (in progress)
45). Nemat Ullah (M.Phil Physics), "**Enhancement of the transport properties of transition metal doped CuVSe3: A First principles study**", (in progress)

1) **Effect of Polarized Colliding Beam on Higgs Boson production at the Lepton Collider",** Accepted in Journal of Modern Physics Letters A.

2)"**Observability of Parameter Space for Charged Higgs Boson in its bosonic decays in Two Higgs Doublet Model Type-1**",Ijaz Ahmed, Waqas Ahmad, M. S. Amjad and Jamil Muhammad, Chinese Phys. C **48** 023104. **(I.F=3.6)**

3) **"Application of deep learning in top pair and single top quark production at the LHC"**, Ijaz Ahmed, Anwarzada, M. Waqas, M.U. Ashraf, Eur. Phys. J. Plus (2023) 138:795, https://doi.org/10.1140/epjp/s13360-023-04409-z **(I.F=3.758)**

4) **"Pair production of heavy charged gauge bosons in pp collisions at LHC"**, Ijaz Ahmed, Fazal Khaliq, M U Ashraf, Taimoor Khurshid and Jamil Muhammad, Physica Scripta, Volume 98, Number 9 , 10.1088/1402-4896/acef0a **(I.F= 3.081)**

5)"**Energy Spectrum of Converters and Positron Range Estimation in PET Simulation For 511-keV Photons"**, M. Afzal Saddaqat, Ijaz Ahmed, International Journal of Innovative Science and Research Technology, Volume 8, Issue 2, February 2023, ISSN No:-2456-2165 **(I.F=7.176)**

6) **"Observability of triple top quark signal at Future Hadron Colliders**", Ijaz Ahmed, Nazima Bi, M.S. Amjad, Progress of Theoretical and Experimental Physics, Volume 2023, Issue 5, May 2023, 053B01, https://doi.org/10.1093/ptep/ptad036, (**I.F=7.492)**

7) **"A comprehensive study of energy dependence of particle ratio in pp collisions from SPS to LHC energies"**, A.M. Khan, Ijaz Ahmed et al., European Physical Journal Plus (2022) 137:1165 **(I.F=3.758)**

8) **"Charged Higgs Observability via Charged Higgs Pair Production at Future Lepton Collider"**, Nadia Kausar, Ijaz Ahmed, M.W. Ather, European Physical Journal Plus (2022) 137:603 **(I.F=3.758)**

9) **"Observability of 2HDM Neutral Higgs Bosons at future linear collider"**, Nadia Kausar, Ijaz Ahmed, M.W. Ather, European Physical Journal Plus (2022) 137:419 **(I.F=3.758)**

10) **"Probing Triple Higgs Self-Coupling and Effect of Beam Polarization in Lepton Colliders"**, Ijaz Ahmed, Ujala Nawaz, Taimoor Khurshid and Shamona Fawad Qazi, Advances in High Energy Physics (AHEP) Volume 2022, Article ID 9735729, 20 pages. **(I.F=1.7)**

11) **"Possibility of observing charged Higgs in the single top production via its τ lepton decay at LHC**", Nadia Kausar, Ijaz Ahmed, International Journal of Theoretical Physics (IJTP), 1572 (2021) 92-105. **(I.F=1.308)**

12) **"Correlation Between the Scaling Factor of the Yukawa Coupling and Cross Section for the e+e−→hhff (f #= t) in Type-I 2HDM"**, Ijaz Ahmed, Sehrish Gul, T. Khurshid, International Journal of Theoretical Physics (IJTP) 60(2021), 2916-2929. **(I.F=1.308)**

13) **"Constraints on H± parameter space in 2HDM at √s = 8 TeV and √s =13 TeV**" , Ahmed, I., Badshah, M. & Kausar, N. Int J Theory Phys (2020). https://doi.org/10.1007/s10773-020-04572-4, arXiv:2004.08418 hep-ph, 1572 (2020) 3189–3205. **(I.F=1.308)**

14) "**The s-channel Charged Higgs in the Fully Hadronic Final State at LHC",** Ijaz Ahmed, Majid Hashemi, Wan Ahmad Tajuddin, European Physical Journal C (2016) 76:209. **(I.F=4.991)**

Major Contribution Journal Publications
ALICE collaboration

15) **"Sources of Charged Higgs Pair Through Double or Triple Higgs Production in Two Higgs Doublet Model Type II at Linear Colliders"**, Ijaz Ahmed, Single author Published in "Advances in High Energy Physics (AHEP)" Volume 2017 (2017), Article ID 6139250, 7 pages. **(I.F=1.7)**

16) **"Observability of Charged Higgs through Triple or Double Higgs Production in a General Two Higgs Doublet Model at an e+e Linear Collider"**. Majid Hashemi, Ijaz Ahmed, Published in Int. Jour. of Mod. Phys. A: arXiv:1401.4841, IJMPAD1400195R2

1) "Precision measurement of the mass difference between light nuclei and anti-nuclei", **Nature Physics** 11, 811–814, doi:10.1038/nphys3432. **I.F=22.806**

2) "**Charged particle multiplicities in proton–proton collisions at √s = 0.9 to 8 TeV with ALICE at LHC**", (Adam, Jaroslav et al.) Eur. Phys. J. C77 (2017) no.1. I.F = 5.331

3) "**Multiplicity dependence of the average transverse momentum in pp, p-Pb, and PbPb collisions at the LHC**", Phys. Lett. B 727 (2013) 371380. I.F= 4.807

4) "**Multiplicity dependence of two particle azimuthal correlations in pp collisions at the LHC"**, JHEP 09 (2013) 049. I.F=6.063

5) "**Multiplicity Dependence of Pion, Kaon, Proton and Lambda Production in p Pb Collisions at $\sqrt{s_{NN}}$ = 5.02 TeV**" , Phys. Lett. B 728 (2014) 25-38. I.F=4.807

6) "**Multiplicity dependence of jet ike two particle correlations in p Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV with ALICE at LHC**" , Phys. Lett. B 741 (2015) 38. I.F=4.807

CMS Collaboration
(major contribution)

7) "**Forward backward multiplicity correlations in pp collisions at √s =0.9, 2.76 and 7 TeV**" , JHEP 05 (2015) 097. I.F=6.063

8) "**Measurement of charm and beauty production at central rapidity versus charged particle multiplicity in proton proton collisions at √s = 7 TeV**" , JHEP 09 (2015) 148. I.F=6.063

1) "**Study of the underlying event in top quark pair production in pp collisions at 13 TeV**", CMSTOP 17015, CERNEP2018177. arXiv:1807.02810, Eur. Phys. J. C (2019) 79:123

CMS Conference Proceedings/papers

2) “**Search for a charged Higgs boson in pp collisions at √s = 8 TeV**” , J. High Energy Phys. 11 (2015) 018. I.F = 6.063

3) “**Measurement of the top quark mass using charged particles in pp in collisions at √ s = 8 TeV**” , Phys. Rev. D 93 (2016) 092006

1) "**Production and the quality control for the CMS endcap RPCs**" Z. Aftab, I. Ahmed at al., Nucl.Phys. B. Proc.Suppl. 158 (2006) 1620, 8th International Workshop on Resistive Plate Chambers and Related Detectors, Seoul, Korea

2) "**Assembly and quality certification for the first station fo CMS endcap RPCs (RE1)**" Z. Aftab, I. Ahmed et al., Nucl.Phys.Proc.Suppl. 158 (2006) 103-107.8th International Workshop on Resistive Plate Chambers and Related Detectors, Seoul, Korea

3) "**Resistive Plate Chambers performance with Cosmic Rays in the CMS experiment**". D. Picccolo et al. CMS Conference Report, CMS CR 2009/196. *Nucl. Instrum. Methods Phys. Res., A* 617 (2010) 180-182

4) "**The RPC system for the CMS experiment**". Gabriella Pugliese et al. IEEE Nuclear Science Symposium Conference Record 2006. 10.1109/NSSMIC.2006.355977

5) **“Charged Higgs Study through Triple or Double Higgs Production in a General Two Higgs Doublet Model at Future Lepton Collider”** Ijaz Ahmed , Majid Hashemi, Proceedings of Science (POS) (Charged 2014) 031, “Prospects for charged Higgs discovery at colliders “, Uppsala, Sweden.

Books/Notes/Reports
CMS experiment

6) **“Halo and Tail Simulations with Applications to the CLIC Drive Beam”**, Miriam Fitterer, AnkeSusanne Muller, Erik Adli, Helmut Burkhardt, Barbara Delana, Giovani Rumolo, Daniel Schulte, Andrea Latina, Ijaz Ahmed. Physical Review Special Topics Accelerators and Beams DOI: 10.13140/2.1.3809.7929 (Conference: 23rd Particle Accelerator Conference (PAC09), Vancouver, Canada,). CERNATS2009085, CLIC NOTE787.

1) “**Technical Proposal for the PhaseII upgrade of the Compact Muon Solenoid**”, CERNLHCC201510, LHCCP008, CMSTDR1502, ISBN 978--92-90834175.

2) “**Top quark mass measurement from highly boosted jets at LHC**”. Ijaz Ahmed CMS Conference Report CMS CR2009/359

3) “**Test beam results of endcap RPCs**”. Ijaz Ahmed, M. Irfan Asghar, Hafeez Hoorani, Zia Aftab, J.A. Jan, M.Shariq Khan, Tariq Solaija. CMS NOTE 2007/015.

4) “**Testing of CMS Endcap RPC and Determination of the Top Quark Mass From High Pt Jets at LHC**". Ijaz Ahmed (QuaidiAzam U.) CERN-THESIS2007003, CMSTS-2009014. 189 pp.

5) “**Quality assurance tests of the CMS endcap RPCs**”. Ijaz Ahmed, Waqar Ahmed, M. Hamid Ansari, M. Irfan Asghar, Sajjad Asghar, Imran M. Awan, Jamila B. Butt, Hafeez R. Hoorani, Ishtiaq Hussain, Taimoor Khurshid, Saleh Muhammad, Hassan Shahzad, Zia Aftab, Mian Iftikhar, M. Shariq Khan, M. Saleh. CMS NOTE 2008/030.

6) “**Data Acquisition system for RPC testing**”, Ijaz Ahmed, Waqar Ahmed, M. Hamid Ansari, M. Irfan Asghar, Sajjad Asghar, Imran M. Awan, Jamila B. Butt, Hafeez R. Hoorani, Ishtiaq Hussain Taimoor Khurshid, Saleh Muhammad, Hassan Shahzad, Zia Aftab, Mian Iftikhar, M. Shariq Khan, M. Saleh. CMS NOTE 2008/031.

7) “**CMS Physics Technical Design Report: Addendum on High Density QCD with Heavy Ions”**, CERNLHCC2007009 ; CMSTDR8.2add1. 2007. 172 p. (Technical Design Report CMS ; 8.2add.1)

8) “**Top quark mass measurement in the lepton plus jets channel using large calorimeter clusters at LHC**”, Ijaz Ahmed, Hafeez Hoorani, Martijn Mulders. CMS IN 2007/023.

9) “**CMS Physics Technical Design Report Volume 1:Detector Performance and Software**”. ISBN 9290832681, ISBN 978929083-2683, CERN-2006

10) “**CMS Physics Technical Design Report Volume 2: Physics Performance**”. ISBN 929083269X, ISBN 9789290832690, CERN publisher in 2006.

11) “**Study of high P t top anti top pair production at LHC**”. Ijaz Ahmed, Hafeez Hoorani, Martijn Mulders. CMS IN 2006/046.

12) “**CMS computing: Technical Design Report**”, CERNLHCC2005023; CMSTDR7. Geneva : CERN, 2005. 169 p

Compact Linear Collider (CLIC)

13) “**CMS The Computing Project Technical Design Report”**, ISBN 92-9083525, CERN publisher (2005).

14) “**CMSThe TriDAS Project Technical Design Report, Volume 2: Data Acquisition and High Level Trigger**” CERN/LHCC 0226, CMS TDR 6, CERN publisher (2002)

1) "**A Multi TeV Linear Collider based on CLIC Technology”, Conceptual Design Report (CDR) of Compact Linear Collider (CLIC) project”**, Volume 1 entitled European Organization for Nuclear Research (CERN) as in CERN2012007, KEK Report 20121, PSI1201,SLACR985, JAI2012-0018, 04 October 2012, ISBN 9789290833796, ISSN 00078328.

2) “**Physics and Detectors at CLIC”, Conceptual Design Report (CDR) of Compact Linear Collider (CLIC) project”**, Volume 2 entitled. European Organization for Nuclear Research (CERN) as in ANLHEPR1201, CERN–2012–003, DESY 12008, KEK Report 20117, 14 February 2012. ISBN 978–92–9083–3727, ISSN 0007–8328.

3) “**Advanced Software Package (s) for modeling luminosity performance**”. E. Adli, I. Ahmed (CERNNCP) et al. EUROTeVReport 2008088

4) “**Report on Luminosity Tuning and Control Strategies**”. E. Adli, I. Ahmed, H. Burkhardt1 et al. EUROTeVReport2008090

5) “**Benchmarking of the PLACET and DIMAD tracking codes using the CLIC post collision line**”, Ijaz Ahmed, Konrad Elsener, Arnaud Ferrari, Andrea Latina, CLIC NOTE770.

6) “**Halo and Tail Generation Computer Model and Studies for Linear Colliders”**, H. Burkhardt, I. Ahmed, M. Fitterer, A. Latina, L. Neukermans, D. Schulte, EUROTeV-Report2008076.

Total Research Publications

7) “**Summary of the BDS and MDI CLIC08 Working Group**”. Tomas, R (CERN) ; Adli, E (CERN) ; Ahmed, I (NCP) et al. CLIC NOTE776

8) “**User Manual for the Halo and Tail Generator HTGEN**”, Ijaz Ahmed, Helmut Burkhardt, Miriam Fitterer. EUROTeVMemo2008003

More than 640 ISI research articles are published with more than 80,000 citations as a coauthor of CMS and ALICE collaboration papers.
https://inspirehep.net/authors/1065563