

Curriculum Vitae

Personal details

Name:	Ashfaq Ahmad	Birth date:	1 January 1974
Address:	Fedder Str 1	Gender:	Male
Postal code/place:	79106 Freiburg Germany	Nationality:	Pakistani
Telephone:	0761-2035872	Marital Status:	Married
		E-mail:	ashfaq.ahmad@cern.ch

Education

2000-2003 **Ph.D** in Experimental High Energy Physics (expected to finish in December 2003) at the **University of Freiburg, Germany**.

1997-1999 **M.Phil** in High Energy Physics. **Quaid-i-Azam University**, Islamabad, Pakistan

1995-1997 **M.Sc** in Physics(with distinction). **Quaid-i-Azam University**, Islamabad, Pakistan.

1993-1995 **B.Sc** in Physics & Mathematics(with distinction). **University of Peshawar**, Pakistan

Courses

Particle Physics, Quantum Field Theory I & II, Group Theory, Semiconductor Physics, Basic Electronics, Circuit Electronics, Solid State Physics, Nuclear Physics, Electrodynamics, Mathematical Physics, Quantum Mechanics, Electromagnetism, Plasma Physics, Statistical Physics, Atomic & Molecular Physics,

Summer School in Particle Physics at Abdus Salam International Center for Theoretical Physics (Italy). (1999),

GEANT4 Users workshop, CERN, Nov 2002.

Work Experience

2000-2003 **Ph.D student and Research Assistant at the University of Freiburg**
Working for the Atlas Inner Detector Semiconductor Tracker (SCT) . In the first year of my Ph.D I focused on studying properties of silicon strip detectors and optimizing the Freiburg Probe station for these measurements. This work also involved software development in the Lab View for various measurements on silicon strip detectors.
In the second and third year of my Ph.D, I contributed to the understanding of common mode noise problem in binary readout systems using statistical analysis techniques. This work has been published in the Nuclear Instruments and Methods in Physics Research

Section A. I provided a practical method to measure the common mode noise and applied the method to Atlas SCT modules (to be published). Freiburg is responsible for the production of silicon strip modules and Endcap Hybrids for the Forward Atlas SCT. I was involved in the development and testing of the Atlas SCT modules and analysis of the module data.

I also contributed to the characterization of Medipix detectors, that's a project to develop semiconductor detectors for medical purposes.

Simulation & Software Experience:

I did simulation for the SCT using GEANT4 under Athena framework. This work involves a lot of software development using object oriented C++. I contributed extensively to the Atlas Software and my Algorithms are now a part of the standard Atlas Releases.

I played an important role in the debugging and validation of the Inner detector digitization code under Athena framework.

Along with doing the software work, I studied the effects of increased SCT inefficiency and noise on the single track reconstruction efficiency of Atlas Inner Tracker.

1997-1999

M.Phil Work: Research assistant at Quaid-i-Azam University Pakistan.

M.Phil Thesis Title: Radiation of Gluon Jets

Thesis defense during the International Conference on Frontier in Physics, at Quaid-i-Azam University Islamabad, Pakistan

Miscellaneous

Computer Knowledge

Operating Systems

Linux (UNIX), MS Windows

Programming

OO C ++, C, Fortran, Lab View, Mathematica

Analysis tools

ROOT, PAW, and experience in MS office, Origin etc

Frameworks

Experience in GEANT4, FADS/Goofy, Athena and Atlas Inner Detector software

Computer text mark-up languages: LATEX

Spoken Languages

English (fluent), Urdu (fluent), German (reasonable), Pushto (mother tongue)

Publications

1. Measurement of common mode noise in binary read-out systems. Nuclear Instruments and Methods in Physics Research. A 487 (2002) 557-564.
2. Absolute dose calibration of an X-ray system and dead time investigations of photon-counting techniques.

- Nuclear Instruments and Methods in Physics Research. A 487 (2002) 71-77.
3. Talk given on common mode noise measurements at the Annual Physics Meeting of the German Physics Society (DPG), Section DAQ and Trigger I, 2002.
 4. Measurement of common mode noise in binary readout systems using the observable Gamma.
(to be published)
 5. Effects of increased SCT noise and inefficiency on single track reconstruction efficiency.
(to be published)

References

Prof. Dr. K. Runge	University of Freiburg	runge@physik.uni-freiburg.de	++49-761-203-5931
PD. Dr. Lutz. Feld	University of Freiburg	Lutz.Feld@cern.ch	++49-761-203-5753
Dr. D. Costanzo	Lawrence Berkeley Lab	Dcostanzo@lbl.gov	++1-510-486-4577