

Basil Schneider

contact

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about

Swiss citizenship
Born 19th March 1982

languages

German (native)
English (fluent)
French (moderate)

computing

Linux
C++, Python
Root, RooFit, RooStats
Bash, Sed, Awk
L^AT_EX
VHDL

besides physics

Cycling
Hiking
Music

education & employment

Nov '14 - now	Postdoctoral Fellow at the ATLAS experiment	TRIUMF
Jan '11 - Jul '14	Ph.D. at the ATLAS experiment Ph.D. Thesis: A general approach to search for supersymmetry at the LHC by combining signal enhanced kinematic regions using the ATLAS detector (Supervisor: Prof. A. Ereditato)	University of Bern
Sep '08 - Mar '10	Master of Science in Theoretical Physics Master Thesis: The partition function of meromorphic conformal field theories at higher genus (Supervisor: Prof. M. Gaberdiel)	ETH Zurich
Oct '04 - Sep '08	Bachelor of Science in Experimental Physics Bachelor Thesis: Untersuchung der Cluster-Struktur von Elastomerpartikeln durch Simulation des Aggregationsvorganges und Partikelgrößen mittels dynamic light scattering (Supervisor: Dr. Cornelius Gauer)	ETH Zurich
Sep '04	Comprehensive entrance exam Exam at the level of a Matura	ETH Zurich

conferences

May '13	1st LHC Physics Conference, Barcelona, Spain Poster: "Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 21 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector"	ATL-PHYS-SLIDE-2013-350
Jun '12	Swiss Physical Society Speaker: "New Optical receiver modules for the insertable B-Layer at the ATLAS project"	
Jun '11	Physics at LHC, Perugia, Italy Poster: "SUSY Searches at ATLAS in Multilepton Final States with Jets and Missing Transverse Energy"	ATL-PHYS-SLIDE-2011-423
Jun '11	Swiss Physical Society Speaker: "Insertable b-Layer: A new layer for the ATLAS detector at CERN"	

teaching

Jan '11 - now	Lab Course Supervising and assisting Physics undergraduate students working on fundamental experiments in mechanics and electronics	University of Bern
Jan '11 - now	Physics for Biologists Assisting 1 st year Physics course	University of Bern
Jul '11 - now	Private lessons for high-school graduates Private lessons in Mathematics, Statistics and Physics	Interlink Schulberatung GmbH
2007/2008	Teaching assistant Teaching assistant for environmental science students in Calculus	ETH Zurich

publications

I am co-author of 213 ATLAS publications; for a full list, see <http://inspirehep.net/author/profile/B.Schneider.1>

Publications where my contributions are substantial:

Jun '14	A general approach to search for supersymmetry at the LHC by combining signal enhanced kinematic regions using the ATLAS detector (PhD thesis) CERN-THESIS-2014-056
May '14	Search for supersymmetry in events with four or more leptons in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector arXiv:1405.5086 [hep-ex]
Feb '14	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector JHEP04(2014)169
Jun '13	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 21 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATL-PHYS-PROC-2013-145
Mar '13	Search for supersymmetry in events with four or more leptons in 21 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2013-036
Mar '13	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 21 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2013-035
Nov '12	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in 13.0 fb ⁻¹ of pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2012-154
Nov '12	Search for Supersymmetry in events with four or more leptons in 13 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATLAS-CONF-2012-153
Aug '12	Search for direct production of charginos and neutralinos in events with three leptons and missing transverse momentum in $\sqrt{s} = 7$ TeV pp collisions with the ATLAS detector Phys.Lett. B718 (2013) 841-859
Nov '11	The ATLAS IBL BOC Demonstrator ATL-INDET-PROC-2011-038
Oct '11	SUSY Searches at ATLAS in Multilepton Final States with Jets and Missing Transverse Energy ATL-PHYS-PROC-2011-201

internal notes

Dec '13	Search for supersymmetry in events with four or more leptons in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector ATL-COM-PHYS-2013-1621
Oct '13	Search for supersymmetry in events with three leptons and missing transverse momentum in 21 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATL-PHYS-INT-2013-021
Jul '13	Search for supersymmetry in events with three leptons and missing transverse momentum in 20.3 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATL-COM-PHYS-2013-888
Dec '12	Search for Supersymmetry in events with four or more leptons in 20.7 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATL-COM-PHYS-2012-1819
Dec '12	Search for Supersymmetry in events with four or more leptons in 13 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATL-PHYS-INT-2012-096
Dec '12	Search for supersymmetry in events with three leptons and missing transverse momentum in 13 fb ⁻¹ pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector ATL-PHYS-INT-2012-095
Sep '12	SUSY Searches in the Final States with Three Leptons and Missing Transverse Momentum at ATLAS ATL-PHYS-INT-2012-059

experience

Jan '11 - now

Analysis: Supersymmetry

- Binning and optimizing the three light lepton final state signal region
- Signal region optimizations in three lepton final states with taus
- Assembling and scripting a package of various scripts to facilitate limit computations; also used by other analyses
- Statistical interpretations of results: Discovery p-values, exclusion contours, upper limits on model cross-sections
- Simultaneous fit of the WZ background in control and signal regions
- Optimization of distributed computing resources for limit calculations with pseudo-experiments
- Presented the analyses at 2 SUSY-Approvals on behalf of the multi-lepton group
- Assisting younger students

Jan '11 - Dec '12 **Hardware: IBL**

- Building up the IBL activities at the University of Bern
- Test of the optical readouts
- Feasibility study of the usage of commercial products
- Selecting best optical readout candidate based on experimental data
- Rudimentary tests with FPGA programming in VHDL
- Replacing dead optical transmitters in USA15
- Presented studies at 2 IBL general meetings on behalf of the ATLAS Bern group

references

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