

CHARLES PLAGER – CURRICULUM VITAE

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EDUCATION

Ph.D. Physics

University of Illinois, Urbana-Champaign

Thesis: *A Search for CP Violation in, and a Dalitz Analysis of, $D^0 \rightarrow \pi^- \pi^+ \pi^0$ in CLEO II.V*

January 2003

Adviser: Mats Selen

M.S. Physics

University of Illinois, Urbana-Champaign

May 1995

B.S. Math, Physics, and Psychology

University of Illinois, Urbana-Champaign

May 1992

AWARDS

2002 Giulio Ascoli Award for Demonstrating Excellence and Originality in the Study of High Energy Physics.

1994 Scott Anderson Physics Assistant Award for Excellence in Teaching.

EXPERIENCE

Postdoctoral Research Associate

University of California, Los Angeles

January 2003 – Present

CDF Collaboration

Appointed co-convenor of top quark properties group in January 2007. Primary tasks include reviewing the analyses and working to standardize analysis tools and procedures (these tools are used by all of the top physics group and much of CDF as a whole).

Founded and leading a ten person analysis group searching for top quark flavor changing neutral currents (*e.g.*, $t \rightarrow Zc$). We presented the first version of this analysis at the 2007 summer conferences.

Performed analyses on various top quark properties. In particular, collaborated on top quark branching fraction analysis, specifically the method for systematic uncertainty propagation, future projected reach, and final limit. Contributed to top pair dilepton cross section analysis, including leading the effort to combine the two CDF (dilepton) top quark pair cross section analyses for the Run II Tevatron's first high p_T publication. God-parent (internal collaboration reviewer) for the search for single top production.

Supervised graduate and undergraduate students on both analyses and service projects. Created top physics analysis framework letting users analyze data outside the CDF software environment, regardless of the physical location of the data files. Updated the online data monitoring interface using a web interface for current information as well as references - making the job both easier and more productive as well as allowing "remote shifts". Updated monitoring software of both cross section and overall trigger performance during running. Authored new web-based system *WebTalks* for organizing talks allowing easy access by both speakers and participants.

Research Assistant

University of Illinois

July 1997 – January 2003

CLEO Collaboration

Performed a complete Dalitz plot analysis examining the resonant substructure of $D^0 \rightarrow \pi^- \pi^+ \pi^0$ decays.

Deeply involved in design, simulation, construction, documentation, and maintenance of trigger electronics and software for CLEO III detector. Created computer simulations and pattern generation of tracking trigger. Designed, tested, and laid out Stereo Trigger (STTR) boards. Wrote code for debugging trigger boards in VME crates. Served as *Trigger Czar* (responsible local on-call expert for trigger system).

Initiated many online data taking improvements by authoring Perl scripts, including web-based electronic log books, web-based shift sign up system, GUI for crate monitoring, and a system for copying and monitoring all data runs. Also created framework allowing seamless integration of C++ with existing FORTRAN code.

Teacher **September 1995 – June 1997**
Peace Corps **Central Africa**
University of Dschang, Cameroon, Africa, June 1996 – June 1997
 Taught “Physics for Biologists” (*La Physique pour Les Science Naturelles*) for three semesters in French. Lecture size ranged from 120 students to 550 students.
Lycée de Mobaye, Central African Republic, Africa, September 1995 – May 1996
 Coordinated class topics from 6^{ème} (7th grade) to *terminale* (13th grade) as head of math department. Taught 3^{ème} (10th grade) through *terminale* in French.

Teaching Assistant **August 1992 – June 1995**
University of Illinois **Physics Department**
 Physics 101-102 (General Physics), December 1994 – June 1995
 Taught 2 lab sections (total of 50 students). Redesigned all 10 labs for Physics 101 and laid the groundwork for the new labs for Physics 102 with Prof. David Hertzog.

Physics 140 (Practical Physics – How Things Work), August 1993 – May 1994
 Co-designed and developed “The Discovery Room” with Prof. David Hertzog – a new hands-on approach to learning for non-science majors. Taught 8 Discovery Room sections per week (50 students).

Physics 106 (General Physics: Mechanics), August 1992 – June 1993
 Taught discussion and lab, wrote quizzes. Graded lab reports, quizzes and exams (75 students).

PUBLICATIONS

Selected Articles

D. Acosta *et al.*, The CDF Collaboration, “Measurement of $B(t \rightarrow Wb)/B(t \rightarrow Wq)$ at the Collider Detector at Fermilab” *Phys. Rev. Lett.* **95**, 102002 (2005).

D. Cronin-Hennessy *et al.*, The CLEO Collaboration, “Searches for CP violation and $\pi\pi$ S-wave in the Dalitz-plot analysis of $D^0 \rightarrow \pi^-\pi^+\pi^0$ ” *Phys. Rev. D* **72**, 031102 (2005).

D. Acosta *et al.*, The CDF Collaboration, “Search for Electroweak Single Top Quark Production in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV” *Phys. Rev. D* **71**, 012005 (2005).

D. Acosta *et al.*, The CDF Collaboration, “Measurement of the $t\bar{t}$ Production Cross Section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV Using Dilepton Events.” *Phys. Rev. Lett.* **93**, 142001 (2004).

R. M. Hans, C. L. Plager, M. A. Selen, and M. J. Haney, “The CLEO-III trigger: axial and stereo tracking” *IEEE Trans. Nucl. Sci.* **48**, no. 3, 2001.

Co-author of 60 CDF and 106 CLEO journal articles. Complete list of publications available: <http://charles.plager.net/publications.pdf>

Books

D. W. Hertzog, D. Kim and C. Plager, **Brave New Labs: Physics 101 Laboratory Experiments**, First Edition, 1995.

Selected Conference Proceedings

C. Plager, “A Search For CP Violation in, and A Dalitz Analysis of $D^0 \rightarrow \pi^-\pi^+\pi^-$ ” in the Proceedings of the 2003 Lake Louise Winter Institute.

T.J. Bergfeld, J.A. Ernst, G.D. Gollin, M.J. Haney, R.M. Hans, E.E. Johnson, C.L. Plager, C. M. Sedlack, M.A. Selen, and J.B. Williams, “The CLEO-III Trigger: Axial and Stereo Tracking,” in the Proceedings of the 2000 Nuclear Science Symposium, Lyon, France, October 2000.

SELECTED INVITED TALKS

FNAL Users Meeting 2006 **June 2006**
 “The Truth, the SM Truth, and Nothing but the Truth?”

PANIC 2005 Conference **October 2005**
 “Top Properties at the Tevatron”

CKM 2005 Conference **March 2005**
 “ V_{tb} at the Tevatron”

SELECTED INVITED **CalTech High Energy Seminar** **October 2004**
TALKS, CONTINUED “At the Top of CDF: Our Run II Experience with the Top Quark”

Lake Louise Winter Institute **February 2003**
“A Search For CP Violation in, and A Dalitz Analysis of, $D^0 \rightarrow \pi^- \pi^+ \pi^-$ in CLEO II.V”

University of Illinois High Energy Physics Seminar **February 2003**
“A Dalitz Analysis of $D^0 \rightarrow \pi^- \pi^+ \pi^-$ and the CLEO III Trigger”

Binghamton University Physics Colloquium **July 2002**
“A Dalitz What? A Foray into High Energy Physics”

VOLUNTEER WORK **Peace Corps** **July 1995 – June 1997**

Physics Van Outreach Program **May 1994 – June 1995**
Helped coordinate and run shows at elementary schools and community associations.

Crisis Line Volunteer **September 1990 – September 1991**

LANGUAGES Fluent in English and French

CITIZENSHIP U.S.

REFERENCES

Postdoctoral Adviser
Prof. David Saltzberg
Department of Physics/154705
University of California, Los Angeles
475 Portula Plaza
Los Angeles, CA 90095-1547
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Worked closely on analyses
Prof. Paul Tipton
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Yale University
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New Haven, CT 06511-8499
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*CDF Co-Spokesperson and former
Head of CDF Online Operations*
Dr. Rob Roser
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CDF Physics Coordinator
Dr. Douglas Glenzinski
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Thesis Adviser
Prof. Mats Selen
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Worked closely with teaching
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