

August 2019

JOHN D. FOX
Applied Physics Department
Stanford University
348 Via Pueblo Mall, Stanford CA 94305

EDUCATION:

Ph.D. Applied Physics, Stanford University, 12/85.

Ph.D. Minor in Electrical Engineering, Stanford University.

Thesis: "Sensing with High-Frequency Ultrasound in Air." This work involves transducers and systems operating in air at .3-10 MHz for rangefinders, imaging microscopes, and surface profile measurements.

M.S. Applied Physics, Stanford University, 3/83.

A.B. Physics, Harvard University, 9/77.

PROFESSIONAL EXPERIENCE:

2009-2018 SLAC Senior Staff Scientist
1990-2008 Group Leader, Feedback and Dynamics Research, Stanford Linear Accelerator Center.
1987-1990 Electrical Engineer, Stanford Linear Accelerator Center
12/86-6/87 Research Staff Member, IBM Almaden Research Center.
1985-1986 Research and Development Engineer, Stanford Photon Research Laboratory
1978-1985 Electrical Engineer, Stanford Linear Accelerator Center
11/75-6/76 Project Engineer, IMSAI, San Leandro, CA

ACADEMIC APPOINTMENTS:

2016-Present Adjunct Professor, Applied Physics, Stanford University
1999-2016 Consulting Professor, Applied Physics, Stanford University
1993-1999 Consulting Associate Professor, Applied Physics, Stanford University
1991-1993 Acting Assistant Professor, Applied Physics, Stanford University
1989-1991 Lecturer in Applied Physics, Stanford University.
1982-1984 Instructor of Physics, Physics Department, Stanford University.
1976-1977 Teaching Assistant, Physics Department, Harvard University

HONORS and AWARDS:

2008 Fellow, American Physical Society, Physics of Beams
2000 Stanford Dean's Award for Distinguished Teaching

TEACHING:

Stanford University

1990 -2018 Applied Physics 207/208 - Invited by the Stanford Applied Physics department to propose and develop a new two quarter graduate course in *laboratory electronics*. Planned syllabus and lab exercises, developed foundation and corporate donation support for a new student laboratory. Responsible for all class lectures and supervision of two lab teaching assistants.

2001-2018 Applied Physics 79 - Co-developed (with Prof. Ted Geballe) "*Energy Choices for the 21st Century*". This seminar class has been offered as part of the Sophomore and Freshman Undergraduate Seminar program. The course centers on basic physics principles and the science literature to analyze renewable energy technology, and uses a seminar format to explore science, technology and policy options. *3 students from the class have received the Introductory Seminar Excellence Award for their final papers (2011,2017,2018)*

- 2015–2018 Physics 105 *Intermediate Laboratory*. Taught lectures and supervised 4 teaching assistants in lab exercises. Developed new curricular materials with focus on signal processing for physics instrumentation.
- 2015 *Applied Physics Short Course on RF Techniques*. Based on Student requests, developed a 5 week lecture/laboratory short course on applications of RF techniques, design and measurement of RF systems. Examples from the science literature, lab exercises to build example RF circuits and strengthen experience and confidence with RF instruments and techniques
- 1982-1984 Physics 106 *Computer Methods for the Laboratory*. Taught lecture and laboratory sessions. Developed course content and student laboratory exercises with microprocessors.
- 1976-1977 Physics 123, *Laboratory Electronics*, Harvard University, laboratory instructor.

US Particle Accelerator Schools

- 2017 “*Introduction to Low Level Radio Frequency Systems, Technology and Applications to Particle Accelerators*”, Co-Developed with C. Rivetta and T. Mastorides, an intensive 3 unit (15 lecture hour) course. The class introduces the fundamental physics of beams interacting with Accelerator RF systems, the technology of RF signal processing used to control beams, and presents example applications from circular and linear accelerators. The course includes Matlab based computer control exercises. Class taught at U.C. Davis (January 2017)
- 2008, 2010 “*Fundamentals of Timing and Synchronization with applications to Accelerators*”, Co-Developed with Russel Wilcox (LBL), a 3 unit (15 lecture hour) course on microwave/RF and electro optic/laser based techniques for measurement and control of fs stable timing and synchronization systems. The class includes hands-on laboratory exercises. Class taught at USPAS January 2010 (UC Santa Cruz) and 2008 (UC Santa Cruz).
- 2004, 2005 “*RF Engineering and Signal Processing*”, a 3 unit (15 lecture hour) course on microwave/RF circuitry and signal processing techniques. The class includes hands-on laboratory exercises as well as computer exercises. Class taught at Cornell University (2005) and William and Mary (2004).
- 1995, 1997, 2012 “*Control Theory with Applications to Accelerators*”, Co-Developed (with H. Hindi), an intensive 3 unit (15 lecture hour) course. The class presents central concepts of modern control theory (including state space representations, feedback, estimation and optimal LQR and LQG control)) and develops example applications for accelerator control problems. The course includes 5 Matlab based computer control exercises. Class taught at Duke University (1995), U.C. Berkeley (1997), MSU (2012 jointly with C. Rivetta)

International Particle Accelerator Schools

- 2016 “*Understanding Signals From Beams*”, Australian Collaboration for Accelerator Science, School for Accelerator Physics, Australian Light Source, Monash Victoria January 18- 29 2016
- 2013 “*Beam Instrumentation and Understanding Signals From Beams*”, US-CERN-Japan-Russia International school “Introduction to Particle Accelerators”, Shuzowa, Japan October 2013
- 1999 “*Beam Instrumentation and Feedback*”, Asian Accelerator School AAS 1999, Huaruo and Beijing, China 22 November – 4 December 1999
- 1998 “*Bunch Feedback Systems and Signal Processing*”, joint US-CERN-Japan-Russia Particle Accelerator School on Beam Measurement, Montreaux, Switzerland, 11-20 May 1998

RESEARCH

Stanford University Energy Sciences (Stanford and Ford Funding)

- 2018 – Present Co-PI with Bill Dally (CS) on “Optimal Control Methods for Fuel Efficiency and Battery Health & Longevity for PHEVs”, grant awarded through the Ford-Stanford Alliance.
- 2015 - 2017 Co-PI with Bill Dally (CS) and Stephen Boyd (EE) on a Precourt Energy Efficiency Institute Project "Context-Sensitive Battery Management Strategies for Hybrid Automobiles". Supervision of two graduate students and active research program funded through a Stanford seed grant.

SLAC and International Accelerator Physics and Technology (DOE, CERN, US-Japan and LNF funding)

Accelerator Research areas center on RF systems and beam dynamics, instability control for particle accelerators, technology development for beam instrumentation. Technology development and active measurement programs at facilities in the US, Europe and Asia. Extensive experience with beam feedback systems, digital signal processing techniques, accelerator dynamics and instrumentation for electron/positron and hadron synchrotrons and storage rings, LINAC systems. Experience with High Energy Physics particle detectors and processing systems, Deputy Program Manager for Electronics for the SLD Detector

- 2019 Participating author and consultant to Jefferson Lab (JLAB) on RF and LLRF issues, beam dynamics studies for their Electron-Ion Collider Conceptual Design Report
- 2018 Participating author CERN Future Circular Collider study
- 2011-2017 Group leader for DOE LHC Accelerator Research (LARP) projects in LHC LLRF techniques and feedback control of electron-cloud instabilities in SPS and LHC.
- 1991 -2008 Group leader for Accelerator Feedback and Instabilities group, development of DSP based instability control methods for us in US, European and Asian accelerator facilities

ADVISING

Research and thesis supervision for Stanford Ph.D. students in Applied Physics and Electrical Engineering, research supervisor for Stanford M.S. Electrical Engineering students.

Postdoctoral Fellow Supervision:

- John Cesaratto, SLAC hosted Toohig Fellow 2011 – 2014
- Staff Scientist at Phillips Research

Ph.D. Student supervision:

- Ozhan Turgut, Aeronautics and Astronautics, Stanford University Ph.D. 2019
- “Identification of Intra-bunch Dynamics for Model-Based Beam Instability Control for the CERN Super Proton Synchrotron”
 - Research Engineer, Apple Computer
- Themis Mastorides, Electrical Engineering Department, Stanford University Ph.D. 2010
- “Radio Frequency Station - Beam Dynamics Interaction in Circular Accelerators”
 - Awarded DOE Toohig Fellowship for research at the LHC 2011
 - Assistant Professor, Physics Department, California Polytechnic University
- Dmitry Teytelman, Electrical Engineering Department, Stanford University, Ph.D. 2003
- “Architectures and Algorithms for Control and Diagnostics of Coupled-Bunch Instabilities in Circular Accelerators”
 - Awarded APS Division of Physics of Beams Dissertation Prize 2003

- Owner and Principal Scientist Dimtel (company selling beam instability control systems to accelerator labs)

Shyama Prabhakar, Applied Physics Department, Stanford University, Ph.D. 2001

- “New Diagnostics and Cures For Coupled-Bunch Instabilities”
- Awarded APS Division of Physics of Beams Dissertation Prize 2001
- Professor, Computational and Systems Biology, University of Singapore

Haitham Hindi, Electrical Engineering Department, Stanford University Ph.D. 2000

- “Local Analysis of Perturbed Linear Systems with Application to Saturating Control Systems”
- Principal Engineer Apple Computer

M.S. Student supervision (these students worked in my research group on a research assistantship):

Walid Hosseini	M.S. Electrical Engineering Stanford University
Liam Beckman	M.S. Electrical Engineering Stanford University
Noam Eisen	M.S. Electrical Engineering Stanford University
Leonid Sapozhnikov	M.S. Electrical Engineering Stanford University
Yubo B. Zhou	M.S. Electrical Engineering Stanford University
Kristen Pollock	M.S. Electrical Engineering Stanford University
Jason Platt	M.S. Applied and Engineering Physics (co-term) Stanford University
Alex Bullitt	M.S. Mechanical Engineering Stanford University

Student Advising and guidance – Pre-major advising for 25 years, enthusiastic and supportive role guiding students for internships, Stanford in Washington, graduate school opportunities. Active participation in VPUE programs on undergraduate engagement and teaching skills. Freshman advisee Sam D’Amico was awarded the Terman prize on graduation, and named me as the most significant Stanford faculty in his undergrad experience. Summer 2017 hosted Stanford undergrad and graduate students resident at CERN (ATLAS group) on a tour of the LHC control room and technical tour of the super proton synchrotron, and over ice cream fostered discussions between undergrads and grad students on graduate school choices and application process.

PROFESSIONAL SERVICE

2006 -2019	Machine Advisory Committee, SuperKEKB Accelerator, KEK Laboratory, Japan
2018	Education and Outreach Committee chair for APS Division of Physics of Beams. Developed proposal for undergraduate colloquia program for outreach to Physics and Engineering departments in US, proposal accepted and travel funds authorized by DPB.
2017	Education and Outreach Committee vice chair for APS Division of Physics of Beams. Developed proposal for undergraduate colloquia program for outreach to Physics and Engineering departments in US.
2017	Stanford Long Range Planning Committee –Served on the “Communication between Natural Sciences and the Public” subcommittee (appointed by K. Moler).
2011 – 2017	Chair, DOE Toohig Fellowship committee. Recruited applicants and led selection process for international Fellowship supporting Postdoctoral research at the LHC under the DOE LHC Accelerator Research Program
2013,2014,2015	Lectures for the Stanford Alumni Association (at Reunions, classes without Quizzes and lectures to Stanford Alumni clubs across the US).

ADDITIONAL INFORMATION and ACTIVITIES:

Place of Birth: Chicago, Illinois.

Among my more useful and unusual credentials are certificates in advanced engine performance, engine repair, engine tune-up, manual transmissions and rear axles, suspensions and steering, electrical systems, and brakes from

the National Institute for Automotive Service Excellence (ASE). Avid recreational cyclist for balance.

City Commissioner for the City of Menlo Park 1998 - 2009

(Bicycle, Pedestrian and Alternative Transportation areas) Contributions to Menlo Park city projects include El Camino visioning, development of the city Bike Plan, and Safe Routes to Schools programs.

2009 - present CAC Advisory Committee for the Transportation Authority (San Mateo County)

Committee member with interests in all transportation modalities, particularly pedestrian and bike facilities and inter-modality planning.

JOHN D. FOX INVITED TALKS and CONTRIBUTED TALKS:

Overview of EC instability Control using Feedback, J. D. Fox, (Invited Talk) Ecloud12 Workshop, La Biodola, Italy June 2012 <http://agenda.infn.it/conferenceOtherViews.py?view=standard&confId=4303>

Feedback Control of Ecloud Instabilities, J. Fox, Invited Talk at the Electron Cloud Mitigation Workshop Geneva, CH (CERN) November 2008

Beam Feedback - Examples from Instability Control and Ideas for the Future, J. Fox, et al, talk presented at the Advanced Acceleration Conference, July 2006

“Klystron Linearizers for PEP-II”, Fox, J. Invited talk at the LLRF05 workshop, CERN, Geneva, October 2005

Multi-Bunch Feedback and High Current Factories - Operational Experience, Theoretical Limits and Technological Options for Future Upgrades", J. Fox and D. Teytelman," talk presented at the Workshop on e+e- in the 1 - 2 GeV Range, September 2003, Alghero Italy

"Multi-Bunch Instability Control, with Limitations (Ultimate and Other)", J. Fox, (Invited), Presented at the July 2001 Snowmass Workshop on the Future of High Energy Physics.

“New Diagnostics And Cures For Coupled-Bunch Instabilities" S. Prabhakar, J. Fox, D. Teytelman ,(INVITED). PAC- 2001-WOAA002, Aug 2001. 5pp. Presented at IEEE Particle Accelerator Conference (PAC2001), Chicago, Illinois, 18- 22 Jun 2001.

“Feedback Systems for Synchrotron Light Sources”, J. Fox, Invited Talk at the ESRF Workshop on Mastering Beam Instabilities in Synchrotron Light Sources, Grenoble, France, March 2000

“Beam Instrumentation and Feedback”, J. Fox, Invited Lectures at the 1999 Asian Accelerator School, Beijing, China November 1999

“Multi-Bunch Instability Diagnostics via Digital Feedback Systems at PEP-II, DAFNE, ALS and SPEAR”, J. Fox, R. Larsen, S. Prabhakar, D. Teytelman, A. Young, SLAC, A. Drago, M. Serio, INFN Frascati, W. Barry, G. Stover, LBL, Proceedings of the 1999 Particle Accelerator Conference (Invited Talk)

“Multi-Bunch Longitudinal Dynamics and Diagnostics via a Digital Feedback System at PEP-II, DAFNE, ALS and SPEAR”, J. Fox, H. Hindi, R. Larsen, S. Prabhakar, D. Teytelman, A. Young, SLAC, A. Drago, M. Serio, INFN Frascati, G. Stover, LBL Proceedings of the 1998 European Particle Accelerator Conference (paper presented June 1998)

“Bunch Feedback Systems and Signal Processing”, J. Fox and E. Kikutani, Invited tutorial at the Joint US-CERN-Japan-Russia School on Particle Accelerators: Beam Measurement, Montreux, Switzerland, 11-20 May 1998. In Montreux/Geneva 1998, Beam measurement 579-620 SLAC-REPRINT-1998-030, 1998.

Transient-Based Beam Diagnostics for Coupled-Bunch Instabilities”, J. Fox, R. Claus, H. Hindi, R. Larsen, I. Linscott, S. Prabhakar, W. Ross, D. Teytelman and A. Young, Talk contributed to the International Workshop on Multi-Bunch Instabilities in Future Electron and Positron Accelerators, KEK, Tsukuba, Japan (1997)

“Accelerator Diagnostic Techniques Using Time-Domain Data from a Bunch-by-Bunch Longitudinal Feedback System,” D. Teytelman, R. Claus, J. Fox, H. Hindi, R. Larsen, I. Linscott, S. Prabhakar, W. Ross, A. Young, A. Drago, M. Serio and G. Stover, in Proc. Beam Diagnostics and Instrumentation for Particle Accelerators (DIPAC 97), Frascati, Italy, (1997) (Invited Talk)

“Analysis and Control of Multi-Bunch Longitudinal Instabilities Using Digital Signal Processing”, J. D. Fox (Invited Talk) American Physical Society Meeting, Indianapolis, IN 5/96

“Control Theory with Applications to Accelerators”, J. D. Fox (Invited Talk) International Conference on

Accelerator and Large Experimental Physics Control Systems, Chicago, IL 11/95

“Feedback Control of Coupled- Bunch Instabilities”, J. D. Fox, N. Eisen, H. Hindi, I. Linscott, G. Oxoby, L. Sapozhnikov and M. Serio, (Invited Paper and Talk) Proceedings of 1993 Particle Accelerator Conference, Washington D.C. 5/93

“Multi-Bunch Feedback - Strategy, Technology and Implementation Options”, J. D. Fox, N. Eisen, H. Hindi, G. Oxoby, L. Sapozhnikov, I. Linscott and M. Serio, (Invited Paper) Proceedings of the 1992 Accelerator Instrumentation Workshop, AIP Conference Proceedings No. 281

“Feedback Implementation Options and Issues for B Factory Accelerators”, J. D. Fox, D. Briggs, N. Eisen, H. Hindi, W. Hosseini, G. Oxoby, I. Linscott, O. Coiro, A. Ghigo, M. Serio, G. Lambertson and F. Voelker, Invited Talk at the 1992 B Factory Workshop, Proceedings of B Factories - the State of the Art in Accelerators, Detectors and Physics, 4/92, 208-215.

“Amplification and Damping of Synchrotron Oscillations via a Parametric Process”, J. D. Fox and P. Corredoura, Contributed talk, Proceedings of the third European Particle Accelerator Conference, 3/92, 1079-1081

JOHN D. FOX BOOK CHAPTERS

Handbook of Accelerator Physics and Engineering, edited by A. Chao, K. Mess, M. Tigner and F. Zimmerman, Chapter 7.2.14 “Feedback to Control Coupled-Bunch Instabilities”, Chapter 7.2.14.1 “Beam Diagnostics via Feedback Signals”, and Chapter 7.3.1.2 “Low Level RF”, second edition 2013, World Scientific, ISBN 978-981-4415-84-2

JOHN D. FOX REFEREED PUBLICATIONS:

Optimal Operation of a Plug-In Hybrid Vehicle, J. Platt, N. Moehle, J. Fox and W. Dally, IEEE Transactions on Vehicular Technology, 2018 (pre-pub access <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&number=8444664>)

Equalizer design techniques for dispersive cables with application to the SPS wideband kicker, J. Platt, W. Hofle, K. Pollock and J. Fox, Nucl. Inst. Meth. A 868, 93 (2017) doi:10.1016/j.nima.2017.06.029

Radio frequency noise effects on the CERN Large Hadron Collider beam diffusion, T. Mastorides, et al Phys.Rev.ST Accel. Beams 14:092802 (2011)

RF system models for the CERN large hadron collider with application to longitudinal dynamics T. Mastorides, et al. Oct. 1, 2010. 12pp. Published in Phys.Rev.ST Accel.Beams 13:102801,2010.

Lessons learned from positron-electron project low level rf and longitudinal feedback. J. Fox, T. Mastorides, C. Rivetta, D. Van Winkle, (SLAC), D. Teytelman, (Dimtel, Redwood City). May 1, 2010. (Published May 1, 2010). 16pp. Published in Phys.Rev.ST Accel.Beams 13:052802,2010.

Modeling and Simulation of Longitudinal Dynamics for Low Energy Ring - High Energy Ring at the Positron-Electron Project. T. Mastorides, C. Rivetta, J. D. Fox, D. Van Winkle, and D. Teytelman, Phys. Rev. ST Accel. Beams 11, 062802 (2008) [12 pages]

Analysis of longitudinal beam dynamics behavior and rf system operative limits at high-beam currents in storage rings, Claudio Rivetta, T. Mastorides, J.D. Fox, D. Teytelman, D. Van Winkle (SLAC) . SLAC-PUB-12374, Mar 6, 2007. 15pp. Published in Phys.Rev.ST Accel.Beams 10:022801,2007.

“Longitudinal quadrupole instability and control in the Frascati DAFNE electron ring”, A. Drago, A. Gallo, A. Ghigo, and M. Zobov, J. D. Fox and D. Teytelman, Phys. Rev. ST Accel. Beams 6, 052801 (2003)

“Characterization Of Longitudinal Impedances in Storage Rings via Multibunch Effects”, D. Teytelman, J. Fox, S. Prabhakar (SLAC), J.M. Byrd (LBL, Berkeley & UC, Davis),SLAC-PUB-9106, Jan 2002. 11pp. Published in

Phys.Rev.ST Accel.Beams 4:112801,2001

“Curing Coupled-Bunch Instabilities with Uneven Fills”, S. Prabhakar, J. Fox and D. Teytelman, Phys. Rev. Lett. 86, No. 10 (2001) 2022-2025

“Commissioning of a higher harmonic RF system for the Advanced Light Source”, J. Byrd, S. De Santis, M. Georgsson, G. Stover, J. Fox, D. Teytelman, Nucl. Inst. Meth. A 455 (2000) 271-282

“Phase Space Tracking of Coupled-Bunch Instabilities”, S. Prabhakar, J. D. Fox, D. Teytelman, and A. Young, Phys. Rev. ST Accel. Beams 2,084401 (1999) (online journal <http://prst-ab.aps.org/>)

“Observation and Modal Analysis of Coupled-Bunch Longitudinal Instabilities via a Digital Feedback Control System,” S.Prabhakar, R.Claus, J.Fox, H.Hindi, I.Linscott, J.Olsen, W.Ross, D.Teytelman, Particle Accelerators, 57/3, 1997.

“An Acoustic Resonator Transducer for Operation in Air,” J.D. Fox, B. T. Khuri-Yakub, and G. S. Kino, Elect. Lett 21 (16), 694-696 (1 August 1985).

“Acoustic Microscopy in Air at 2 MHz,” J. D. Fox, G. S. Kino, and B. T. Khuri-Yakub, Appl. Phys. Lett. 47 (5), 465-467 (1 September 1985).

JOHN D. FOX PUBLICATIONS:

Recent Results from the Wideband Feedback System Tests at the SPS and Future Plans, K. Li, et al, Proc. 61st ICFA Advanced Beam Dynamics Workshop (HB'18)}, Daejeon, Korea, June 2018 doi:10.18429/JACoW-HB2018-MOP2WA04

Impact of a Wideband Feedback Prototype System on TMCI in the SPS, W. Hofle, et al, Proceedings of the IPAC18 conference doi:10.18429/JACoW-IPAC2018-TUZGBD4

Control of Intra-Bunch Vertical Motion in the SPS with GHz Bandwidth Feedback, J. Fox, et al, Proceedings of the IPAC18 conference doi:10.18429/JACoW-IPAC2018-WEPAL079

Control of Intra-Bunch Vertical Instabilities at the SPS - Measurements and Technology Demonstration, J. Fox, et al, presented at IPAC17 doi:10.18429/JACoW-IPAC2017-TUPIK119

Beam dynamics issues in the FCC, F. Zimmermann, et al, Proc ICFA HB2016 workshop doi:10.18429/JACoW-HB2016-WEAM5X01

Identification of Intra-bunch Transverse Dynamics for Model-Based Control Purposes at CERN Super Proton Synchrotron, O. Turgut, et al, Presented at IPAC16, doi:10.18429/JACoW-IPAC2016-THOAA01

Wideband Vertical Intra-Bunch Feedback at the SPS - Technology Development, Recent Accelerator Measurements and Next Steps, J. Fox, et al, Presented at the IPAC2015 conference, doi:10.18429/JACoW-IBIC2015-WECLA04

Wideband Vertical Intra-Bunch Feedback At The SPS - 2015 Results And Path Forward, C. Rivetta, et al, Presented IPAC2015 paper TUAC2

Modeling and Feedback Design Techniques for Controlling Intra-Bunch Instabilities at CERN SPS Ring, C. Rivetta, et al, Presented at HB2014 paper THO3AB04

First Results and Analysis of the Performance of a 4 GS/s Intra-Bunch Vertical Feedback System at the SPS, J.D. Fox, et al, proceedings of the IPAC13 conference May 2013 SLAC Pub - 15500

A Wideband Slotted Kicker Design for SPS Transverse Intra-Bunch Feedback, J. Cesaratto, et al, proceedings of the

IPAC13 conference May 2013 SLAC Pub- 15498

Excitation of Intra-Bunch Vertical Motion in the SPS - Implications for Feedback control of Ecloud and TMCI Instabilities", J. Cesaratto et al, proceedings of the IPAC12 Conference May 2012

Study of Wideband Feedback Kicker for the SPS, S. De Santis, et al Proceedings of the IPAC12 conference May 2012

Analysis of Numerical Noise in Particle-in-Cell Simulations of Single-Bunch Transverse Instabilities and Feedback in the CERN SPS, M. Venturini, et a, Proceedings of the IPAC12 Conference May 2012

Feedback System Design Techniques for Control of Intra-Bunch Instabilities at the SPS, C. Rivetta, et al Proceedings of the IPAC12 conference May 2012

Reduced Mathematical Model of Transverse Intra-Bunch Dynamics, C. Rivetta, et al, Proceedings of the IPAC12 Conference May 2012

A 4 GS/sec. Synchronized Vertical Excitation System for SPS Studies - Steps Toward Wideband Feedback, J. Fox et al Proceedings of the IPAC12 conference May 2012

Simulation Code Implementation to Include Models of a Novel Single-Bunch Instability Feedback System and Intra- beam Scattering, M. Pivi, et al, proceedings of the IPAC12 Conference May 2012

Studies of RF Noise Induced Bunch Lengthening in the LHC, T. Mastorides et. al., Presented at the Particle Accelerator Conference (PAC11),NY,NY May 2011

Mathematical Models of Feedback Systems for Control of Intra-Bunch Instabilities Driven by E-clouds and TMCI, C. Rivetta, et. al., Presented at the Particle Accelerator Conference (PAC11),NY,NY May 2011

Estimation of Ecloud and TMCI Driven Vertical Instability Dynamics from SPS Measurements - Implications for Feedback Control, O. Turgut, et. al., Presented at the Particle Accelerator Conference (PAC11),NY,NY May 2011

11.424 GHz Stripline Transversal Filter for Sub-Picosecond Bunch Timing Measurements, D. Van Winkle, A. Young, J. Fox, Presented at the Beam Instrumentation Workshop BIW-10, SLAC Pub 14168

SPS Ecloud Instabilities---Analysis of machine studies and implications for Ecloud Feedback J. Fox et al, Presented at the International Particle Accelerator Conference (IPAC10), Kyoto, Japan May 2010

LHC Beam Diffusion Dependence on RF Noise: Models and Measurements, T. Mastorides et. al., Presented at the International Particle Accelerator Conference (IPAC10), Kyoto, Japan May 2010

Commissioning of the LHC Low Level RF System Remote Configuration Tools, D. Van Winkle et. al., Presented at the International Particle Accelerator Conference (IPAC10), Kyoto, Japan May 2010

Simulation of E-cloud Driven Instability and its Attenuation Using a Feedback System in the CERN SPS, J.-L. Vay et. al., Contributed Talk at the International Particle Accelerator Conference (IPAC10), Kyoto, Japan May 2010

Feedback Configuration Tools for LHC Low Level RF System. D. Van Winkle, J. Fox, T. Mastorides, C. Rivetta, (SLAC) P. Baudrenghien, A. Butterworth, J. Molendijk, (CERN) . SLAC-PUB-13613, Dec 16, 2009. 3pp. Presented at Particle Accelerator Conference (PAC 09), Vancouver, BC, Canada, 4-8 May 2009

Feedback Techniques and Ecloud Instabilities - Design Estimates. J.D. Fox, T. Mastorides, G. Ndabashimiye, C. Rivetta, D. Van Winkle, (SLAC) , J. Byrd, J-L Vay, (LBL, Berkeley) , W. Hofle, G. Rumolo, (CERN) , R. De Maria, (Brookhaven) . SLAC-PUB-13634, May 18, 2009. 4pp. Presented at Particle Accelerator Conference (PAC 09), Vancouver, BC, Canada, 4-8 May 2009

Application of Non-Linear Time-Domain RF Simulations to Longitudinal Emittance Studies for the LHC.
T. Mastorides, C. Rivetta, J.D. Fox, D. Van Winkle, (SLAC) . SLAC-PUB-13631, May 15, 2009. 3pp.
Presented at Particle Accelerator Conference (PAC 09), Vancouver, BC, Canada, 4-8 May 2009

PEP-X: RF Issues and Initial Estimates, C. Rivetta, T. Mastorides and J. Fox, SLAC Technical Note SLAC-TN-08-003 December 2008

Lessons Learned from PEP-II LLRF and Longitudinal Feedback, J. D. Fox, Themis Mastorides, Claudio Hector Rivetta, Daniel Van Winkle and D. Teytelman. Presented at the European Particle Accelerator Conference (EPAC 08), Genova, Italy 22 - 27 June 2008

Investigations into Cost Reductions of X-Band Instrumentations, Daniel Van Winkle, V. Dolgashev, J. D. Fox, S. Tantawi, Presented at the European Particle Accelerator Conference (EPAC 08), Genova, Italy 22 - 27 June 2008

Modeling and simulation of the longitudinal beam dynamics-RF Station Interaction in the LHC Rings, Themis Mastorides, J. D. Fox, Claudio Hector Rivetta, Daniel Van Winkle, P. Baudrengnien, J. Tuckmantel, Presented at the European Particle Accelerator Conference (EPAC 08), Genova, Italy 22 - 27 June 2008

Commissioning of the iGp Feedback System at DAFNE, Alessandro Drago, D. Teytelman, M. Tobiyama, J. D. Fox Presented at the European Particle Accelerator Conference (EPAC 08), Genova, Italy 22 - 27 June 2008

Measurements and Analysis of Longitudinal HOM Driven Coupled Bunch Modes in PEP-II Rings.
T Mastorides, C. Rivetta, J.D. Fox, D. Van Winkle (SLAC) . SLAC-PUB-13289, Jul 7, 2008. 6pp.
Contributed to 13th Beam Instrumentation Workshop (BIW08), Lake Tahoe, California, 4-8 May 2008.

Suppression of longitudinal coupled-bunch instabilities at the KEK-PF.
T. Obina, M. Tobiyama, T. Honda, M. Tadano, J.W. Flanagan, T. Mitsuhashi, (KEK, Tsukuba) , W.X. Cheng, J.D. Fox, (SLAC) , D. Teytelman, (Dimtel, Redwood City) . May 2008. 5pp.
Published in *Tahoe City 2008, Beam instrumentation Workshop 2008* 203-207

Measurements and Analysis of Longitudinal HOM Driven Coupled Bunch Modes in PEP-II Rings.
T Mastorides, C. Rivetta, J.D. Fox, D. Van Winkle (SLAC) . SLAC-PUB-13289, Jul 7, 2008. 6pp.
Contributed to 13th Beam Instrumentation Workshop (BIW08), Lake Tahoe, California, 4-8 May 2008.

Stripline Transversal Filter Techniques for Sub-picosecond Bunch Timing Measurements.
John D. Fox, Themis Mastorides, Claudio Hector Rivetta, Daniel Van Winkle (SLAC) . SLAC-PUB-12631, Jul 6, 2007. 7pp. Presented at 8th European Workshop on Beam Diagnostics and Instrumentation for Particle Accelerators (DIPAC 2007), Venice, Italy, 20-23 May 2007.

Selecting RF Amplifiers for Impedance Controlled LLRF Systems - Nonlinear Effects and System Implications.
John D. Fox, Themis Mastorides, Claudio Hector Rivetta, Daniel Van Winkle (SLAC) . PAC07-WEPM047, SLAC- PUB-12636, Jul 6, 2007. 7pp. Proceedings of Particle Accelerator Conference (PAC 07), Albuquerque, New Mexico, 25-29 Jun 2007, pp 2451.

Analysis of the Longitudinal Low-Order Mode Beam Dynamics in PEP-II Rings at High Current Beams.
T. Mastorides, C. Rivetta, J.D. Fox, D. Teytelman, D. Van Winkle (SLAC) . PAC07-MOPAS062, SLAC-PUB-12654, Jul 16, 2007. 4pp. In the Proceedings of Particle Accelerator Conference (PAC 07), Albuquerque, New Mexico, 25-29 Jun 2007, pp 575. Also in *Albuquerque 2007, Particle accelerator* 575-577

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