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Publications

- Peer Reviewed Publications:

1. P. BAUDRENGHIEN, T. MASTORIDIS, *Fundamental Cavity Impedance and Longitudinal Coupled-Bunch Instabilities at the High Luminosity Large Hadron Collider*, Phys. Rev. Accel. Beams Vol. 20, 011004, (2017).
2. P. BAUDRENGHIEN, T. MASTORIDIS, *Transverse emittance growth due to RF noise in the High-Luminosity LHC Crab Cavities*, Phys. Rev. Accel. Beams 18, 101001 (2015).
3. J. F. ESTEBAN MULLER, P. BAUDRENGHIEN, T. MASTORIDIS, E. SHAPOSHNIKOVA, D. VALUCH, *High-accuracy diagnostic tool for electron cloud observation in the LHC based on synchronous phase measurements*, Phys. Rev. Accel. Beams 18, 112801 (2015).
4. P. BAUDRENGHIEN, T. MASTORIDIS, *Longitudinal emittance blowup in the Large Hadron Collider*, Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, Volume 726, October 2013.
5. S. BARON, T. MASTORIDIS, J. TROSKA, P. BAUDRENGHIEN, *Jitter impact on clock distribution in LHC experiments*, Journal of Instrumentation, Volume 7, December 2012.
6. T. MASTORIDES, C.H. RIVETTA, J.D. FOX, P. BAUDRENGHIEN, A. BUTTERWORTH, J. MOLENDIJK, *Radio Frequency Noise Effects on the CERN Large Hadron Collider Beam Diffusion*, Phys. Rev. Accel. Beams 14, 092802 (2011).
7. T. MASTORIDES, J.D. FOX, C.H. RIVETTA, D. VAN WINKLE, P. BAUDRENGHIEN, *RF system models for the CERN Large Hadron Collider with application to longitudinal dynamics*, Phys. Rev. Accel. Beams 13, 102801 (2010).
8. J.D. FOX, T. MASTORIDES, C. RIVETTA, D. VAN WINKLE, D. TEYTELMAN *Lessons Learned from PEP-II LLRF and Longitudinal Feedback*, Phys. Rev. Accel. Beams 13, 052802 (2010).
9. T. MASTORIDES, C. RIVETTA, J.D. FOX, D. VAN WINKLE, D. TEYTELMAN, *Analysis of Longitudinal Beam Dynamics Behavior and RF System Operative Limits at High Beam Currents in Storage Rings*, Phys. Rev. Accel. Beams 11, 062802 (2008).
10. C. RIVETTA, T. MASTORIDES, J.D. FOX, D. TEYTELMAN, D. VAN WINKLE, *Modeling and Simulation of Longitudinal dynamics for Low Energy Ring-High Energy Ring at the Positron-Electron Project*, Phys. Rev. Accel. Beams 10, 022801 (2007).

- Project and Technical Reports

1. T. MASTORIDIS, P. BAUDRENGHIEN, J. MOLENDIJK, H. TIMKO, *Cavity Voltage Phase Modulation MD*, CERN-ACC-NOTE-2016-0061, October 2016.

2. T. ARGYROPOULOS, C. BHAT, A. BUROV, J. F. ESTEBAN MULLER, S. JAKOBSEN, T. MASTORIDIS, E. METRAL, N. MOUNET, G. PAPOTTI, T. PIELONI, B. SALVANT, E. SHAPOSHNIKOVA, H. TIMKO, *Beam induced heating reduction by bunch flattening*, CERN-ACC-NOTE-2014-0011, March 2014.
3. T. MASTORIDIS, P. BAUDRENGHIEN, A. BUTTERWORTH, J. MOLENDIJK, J. TUCKMANTEL, *Cavity Voltage Phase Modulation MD blocks 3 and 4*, CERN-ATS-Note-2013-013 MD, March 2013.
4. T. MASTORIDIS, P. BAUDRENGHIEN, *RF Observations during High Pile-up MD*, CERN-ATS-Note-2012-099 MD.
5. J. ABELLEIRA, *et. al.*, *Large Piwinski Angle*, CERN-ATS-Note-2012-091 MD.
6. T. MASTORIDIS, P. BAUDRENGHIEN, A. BUTTERWORTH, J. MOLENDIJK, J. TUCKMANTEL, *Cavity Voltage Phase Modulation MD*, CERN-ATS-Note-2012-075 MD.
7. M.E. ANGOLETTA, *et. al.*, *RF Group Annual Report 2011*, CERN-ATS-Note-2012-242.
8. T. ARGYROPOULOS, *et. al.*, *Studies of the LHC impedance at injection energy*, CERN-ATS-Note-2012-060 MD.
9. T. MASTORIDIS, P. BAUDRENGHIEN, M. JAUSSE, J. MOLENDIJK, J. TUCKMANTEL, *Batch By Batch Longitudinal Emittance Blowup MD*, CERN-ATS-Note-2012-050 MD.
10. J. ESTEBAN MULLER, *et. al.*, *Electron cloud observations through synchronous phase measurements*, CERN-ATS-Note-2012-036 PERF.
11. T. MASTORIDIS, P. BAUDRENGHIEN, J. MOLENDIJK, *The LHC One-Turn Feedback*, CERN-ATS-Note-2012-025 PERF.
12. T. MASTORIDIS, P. BAUDRENGHIEN, *RF Observations during 25 ns MD sessions in 2011*, CERN-ATS-Note-2012-024 MD.
13. T. MASTORIDIS, P. BAUDRENGHIEN, *RF Observations during High Single Bunch Intensity MD*, CERN-ATS-Note-2012-023 MD.
14. T. ARGYROPOULOS, C. BHAT, P. BAUDRENGHIEN, T. MASTORIDIS, J. MULLER, G. PAPOTTI, E. SHAPOSHNIKOVA, J. TUCKMANTEL, D. VALUCH, *Longitudinal Oscillations with Batch Injection in the LHC*, CERN-ATS-Note-2011-031 MD.
15. P. BAUDRENGHIEN, C. BHAT, T. BOHL, T. MASTORIDIS, J. MULLER, J. MOLENDIJK, G. PAPOTTI, E. SHAPOSHNIKOVA, H. TIMKO, U. WEHRLE, *Dependence of single beam lifetime on bunch length*, CERN-ATS-Note-2011-083 MD.
16. T. ARGYROPOULOS, P. BAUDRENGHIEN, C. BHAT, T. MASTORIDIS, J. MULLER, G. PAPOTTI, E. SHAPOSHNIKOVA, J. TUCKMANTEL, W. VENTURINI DELSOLARO, *Longitudinal single bunch stability in LHC with phase loop on*, CERN-ATS-Note-2011-056 MD.
17. T. MASTORIDIS, *Radio Frequency Station - Beam Dynamics Interaction in Circular Accelerators*, Ph.D. Thesis, Stanford University (2010) and SLAC-R-959.
18. T. MASTORIDES, *Non-Linear Time-Domain Simulations of the RF Station-Beam Dynamics Interaction for the LHC*, SLAC Technical Note, SLAC-TN-10-025, August 2010.
19. C. RIVETTA, T. MASTORIDES, J.D FOX, D. VAN WINKLE, *PEP-X: RF Issues and Initial Estimates*, SLAC Technical Note, SLAC-TN-08-003, December 2008.

• Articles:

1. H. TIMKO, E. SHAPOSHNIKOVA, P. BAUDRENGHIEN, T. MASTORIDIS, *Studies on Controlled RF Noise for the LHC*, Proceedings of Advanced Beam Dynamics Workshop on High-Intensity and High-Brightness Hadron Beams, East Lansing, MI, November 10-14, 2014.
2. E. SHAPOSHNIKOVA, *et. al.*, *Flat Bunches in the LHC*, Proceedings of International Particle Accelerator Conference 2014, Dresden, Germany, 15-20 June, 2014.
3. J. ESTEBAN MULLER, P. BAUDRENGHIEN, E. SHAPOSHNIKOVA, D. VALUCH, T. MASTORIDIS, *High-accuracy diagnostic tool for electron cloud observation in the LHC based on synchronous phase measurements*, Proceedings of International Particle Accelerator Conference 2014, Dresden, Germany, 15-20 June, 2014.
4. M. KUHN, *et. al.*, *Investigations of the LHC Emittance Blow-Up during the 2012 Proton Run*, Proceedings of International Particle Accelerator Conference 2013, Shanghai, China, 12-17 May, 2013.
5. B. SALVANT, *et. al.*, *Update on Beam Induced RF Heating in the LHC*, Proceedings of International Particle Accelerator Conference 2013, Shanghai, China, 12-17 May, 2013.
6. T. MASTORIDIS, P. BAUDRENGHIEN, O. BRUNNER, E. SHAPOSHNIKOVA, *LHC RF: 2012 Performance and Preparations for Post LS1 Operation*, Proceedings of the LHC Beam Operation workshop 2012, Evian, France, December 17-20, 2012.
7. P. BAUDRENGHIEN, T. MASTORIDIS, *Performances and Future Plans of the LHC RF*, Proceedings of the Advanced Beam Dynamics Workshop on High-Intensity and High-Brightness Hadron Beams, Beijing, China, September 17-21, 2012.
8. B. SALVANT, *et. al.*, *LHC Impedance Model: Experience with High Intensity Operation in the LHC*, Proceedings of the Advanced Beam Dynamics Workshop on High-Intensity and High-Brightness Hadron Beams, Beijing, China, September 17-21, 2012.
9. J. ESTEBAN MULLER, *et. al.*, *Measurements of the LHC Longitudinal Resistive Impedance with Beam*, Proceedings of the Advanced Beam Dynamics Workshop on High-Intensity and High-Brightness Hadron Beams, Beijing, China, September 17-21, 2012.
10. J. ESTEBAN MULLER, *et. al.*, *Synchronous Phase Shift at LHC*, Proceedings of E-CLOUD'12: Joint INFN-CERN-EuCARD-AccNet Workshop on Electron-Cloud Effects, La Biodola, Isola d'Elba, Italy, June 5-9, 2012.
11. T. MASTORIDIS, P. BAUDRENGHIEN, J.C. MOLENDIJK, *LHC One-turn Delay Feedback Commissioning*, Proceedings of International Particle Accelerator Conference 2012, New Orleans, LO, USA, 20-25 May, 2012.
12. P. BAUDRENGHIEN, T. MASTORIDIS, *Proposal for an RF Roadmap Towards Ultimate Intensity in the LHC*, Proceedings of International Particle Accelerator Conference 2012, New Orleans, LO, USA, 20-25 May, 2012.
13. P. BAUDRENGHIEN, T. MASTORIDIS, *Running the RF at higher energy and intensity*, Proceedings of Chamonix 2012 Workshop on LHC Performance, Chamonix, France, February 6-10, 2012.
14. P. BAUDRENGHIEN, T. MASTORIDIS, *The LHC RF: 2011 and Beyond*, Proceedings of the LHC Beam Operation workshop 2011, Evian, France, December 12-14, 2011.

15. E. SHAPOSHNIKOVA, *et. al.*, *Loss of Landau Damping in the LHC*, Proceedings of International Particle Accelerator Conference 2011, San Sebastian, Spain, September 2011.
16. P. BAUDRENGHIEN, A.C. BUTTERWORTH, M. JAUSSI, T. MASTORIDIS, G. PAPOTTI, E.N. SHAPOSHNIKOVA, J. TUCKMANTEL, *Longitudinal Emittance Blow-up in the LHC*, Proceedings of International Particle Accelerator Conference 2011, San Sebastian, Spain, September 2011.
17. P. BAUDRENGHIEN, *et. al.*, *The LHC RF System - Experience with Beam Operation*, Proceedings of International Particle Accelerator Conference 2011, San Sebastian, Spain, September 2011.
18. T. MASTORIDES, J.D. FOX, C.H. RIVETTA, P. BAUDRENGHIEN, A. BUTTERWORTH, J. MOLENDIJK, *Studies of RF Noise Induced Bunch Lengthening at the LHC*, Proceedings of Particle Accelerator Conference 2011, New York, NY, March 2011.
19. C.H. RIVETTA *et. al.*, *Mathematical Models of Feedback Systems for Control of Intra-Bunch Instabilities Driven by E-Clouds and TMCI*, Proceedings of Particle Accelerator Conference 2011, New York, NY, March 2011.
20. T. MASTORIDES, J.D. FOX, C.H. RIVETTA, D. VAN WINKLE, P. BAUDRENGHIEN, *LHC Beam Diffusion Effects: Models and Measurements*, Proceedings of International Particle Accelerator Conference 2010, Kyoto, Japan, May 2010.
21. D. VAN WINKLE, J.D. FOX, T. MASTORIDES, C.H. RIVETTA, P. BAUDRENGHIEN, A. BUTTERWORTH, J. MOLENDIJK, *Commissioning of the LHC Low Level RF System Remote Configuration Tools*, Proceedings of International Particle Accelerator Conference 2010, Kyoto, Japan, May 2010.
22. J.D. FOX, T. MASTORIDES, G. NDABASHIMIYE, C.H. RIVETTA, D. VAN WINKLE, R. DE MARIA, W. HFLE, G. RUMOLO, J. BYRD, M. FURMAN, J.VAY, *SPS Ecloud Instabilities - Analysis of machine studies and implications for Ecloud Feedback*, Proceedings of International Particle Accelerator Conference 2010, Kyoto, Japan, May 2010.
23. T. MASTORIDES, J.D. FOX, C.H. RIVETTA, D. VAN WINKLE, *Application of Non-Linear Time-Domain RF Simulations to Longitudinal Emittance Studies for the LHC*, Proceedings of Particle Accelerator Conference 2009, Vancouver, Canada, May 2009.
24. D. VAN WINKLE, J.D. FOX, T. MASTORIDES, C.H. RIVETTA, P. BAUDRENGHIEN, A.C. BUTTERWORTH, J.C. MOLENDIJK, *Feedback Configuration Tools for LHC Low Level RF System*, Proceedings of Particle Accelerator Conference 2009, Vancouver, Canada, May 2009.
25. R.O. HETTEL *et. al.*, *Concepts for the PEP-X Light Source*, Proceedings of Particle Accelerator Conference 2009, Vancouver, Canada, May 2009.
26. J.D. FOX, T. MASTORIDES, C.H. RIVETTA, D. VAN WINKLE, J. XU, J.M. BYRD, W. HOFLE, G. RUMOLO, R. DE MARIA, *Feedback Techniques and SPS Ecloud Instabilities - Design Estimates*, Proceedings of Particle Accelerator Conference 2009, Vancouver, Canada, May 2009.
27. C.H. RIVETTA, J.D. FOX, T. MASTORIDES, D. VAN WINKLE, *Double RF System for PEP-X Light Source - Topology, Longitudinal Beam Stability and Performance*, Proceedings of Particle Accelerator Conference 2009, Vancouver, Canada, May 2009.

28. T. MASTORIDES, C. RIVETTA, J.D. FOX, D. VAN WINKLE, *Modeling and Simulation of the Interaction Between the Longitudinal Beam Dynamics and the RF Stations in the LHC Rings*, Proceedings of European Particle Accelerator Conference 2008, Genoa, Italy, June 2008.
29. J.D. FOX, T. MASTORIDES, C. RIVETTA, D. VAN WINKLE, D. TEYTELMAN *Lessons Learned from PEP-II LLRF and Longitudinal Feedback*, Proceedings of European Particle Accelerator Conference 2008, Genoa, Italy, June 2008.
30. T. MASTORIDES, C. RIVETTA, J.D. FOX, D. VAN WINKLE, *Measurements and Analysis of Longitudinal HOM Driven Coupled Bunch Modes in PEP-II Rings*, Proceedings of Beam Instrumentation Workshop 2008, Tahoe City CA, May 2008.
31. J.D. FOX, T. MASTORIDES, J. XU, *Stripline Transversal Filter Techniques For Sub-Picosecond Bunch Timing Measurements*, Proceedings of Workshop on Beam Diagnostics and Instrumentation for Particle Accelerators (DIPAC) 2007, Venice, Italy, May 2007.
32. J.D. FOX, D. VAN WINKLE, T. MASTORIDES, C. RIVETTA, *Selecting RF Amplifiers for Impedance Controlled LLRF systems - Nonlinear Effects and System Implications*, Proceedings of IEEE Particle Accelerator Conference 2007, Albuquerque NM, June 2007.
33. T. MASTORIDES, C. RIVETTA, J.D. FOX, D. TEYTELMAN, D. VAN WINKLE, *Analysis of the Longitudinal Low-order Mode Beam Dynamics in PEP-II Rings at High Current Beams*, Proceedings of IEEE Particle Accelerator Conference 2007, Albuquerque NM, June 2007.
34. C. RIVETTA, T. MASTORIDES, J.D. FOX, D. TEYTELMAN, D. VAN WINKLE, *Modeling and Simulation of Longitudinal Dynamics for LER-HER PEP II Rings*, Proceedings of European Particle Accelerator Conference 2006, Edinburgh, Scotland, June 2006.
35. D. VAN WINKLE, M. BROWNE, J.D. FOX, T. MASTORIDES, C. RIVETTA, D. TEYTELMAN, *Amplitude Linearizers for PEP-II 1.2 MW Klystrons and LLRF Systems*, Proceedings of European Particle Accelerator Conference 2006, Edinburgh, Scotland 2006 and SLAC-PUB-11945, July 2006.
36. J.D. FOX, T. MASTORIDES, D. TEYTELMAN, D. VAN WINKLE, Y. ZHOU, *Klystron Linearizer for Use with 1.2 MW 476 MHz Klystrons in PEP-II RF Systems*, Proceedings of IEEE Particle Accelerator Conference 2005, Knoxville TN 2005 and SLAC-PUB-11228, May 2005.