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#### Education

- Ph.D. Electrical Engineering, *University of Maryland, College Park, Maryland*, 1992,
- M.Sc. Electrical Engineering, *Cairo University, Giza, Egypt*, 1987.
- B.Sc. Electrical Engineering, *Cairo University, Giza, Egypt*, 1984.

#### Awards and Honors

- Fellow, American Physical Society, 2005
- US Particle Accelerator School Prize for achievements in accelerator physics and technology, June, 2003.

#### Recent Employment History

- *2014 to present* **Chief Scientist**, *Accelerator Technology Research Division, SLAC National Accelerator laboratory*
- *2012 to present* Particle Physics and Astrophysics Department, Stanford University, **Professor**
- *2005* Particle Physics and Astrophysics Department, Stanford University, **Associate Professor with Tenure**
- *2002* Stanford Linear Accelerator Center, Stanford University, **Associate Professor**
- *2001 to 2005*: *Cairo University, Giza, Egypt, Electronics and Communications Engineering Department*, **Associate Professor**, on an extended leave-of-absence.
- *2006 to 2012* Stanford Linear Accelerator Center, Stanford University, Advanced Microwave Technology Research **Group Leader/Accelerator Technology Research Department Head**
- *99 to 2006*: Stanford Linear Accelerator Center, Stanford University, Accelerator Research Department A, **High Power RF Group Leader**.

#### Other Employment/Affiliations

- *2019 to present* **Adjunct Professor**, *Electrical Engineering Department, Michigan State University*
- *Jan 2019-April 2019* **Visiting Professor** *Facility for Rare Isotope Beams, Michigan State University*
- *Jan 2020-April 2020* **Visiting Professor** *Facility for Rare Isotope Beams, Michigan State University*
- **Faculty Member**, *Hansen Experimental Physics Laboratory, Stanford University*.
- **Associate Member**, *Kavli Institute for Particle Astrophysics and Cosmology, Stanford University*

#### Experience:

*I have been with SLAC since 92. Currently I am a professor and Chief Scientist for Accelerator Technology Research Division, My experience includes:*

- *Currently I am Leading a world class research effort to revolutionize RF linacs and associated high power RF system. This effort is funded in the tune of about \$6M/Year as of 2019:*
  - *This effort aims to push the performance boundaries of these systems and also address the economical problems associated with is bringing these advanced system to the realm of applications.*
  - *The program addresses both electron and hadron accelerators.*
  - *It explores a new domain of Advanced accelerator concepts: the applications of mm-wave and THz radiation to compact, ultra-high gradient linacs.*
  - *The application space sweeps the medical domain, national security needs, compact/advanced light sources, and pushes the limits of HEP energy frontier.*
  - *We are also pushing the limits of economical high power RF systems.*
  - *We are also pushing the limits of numerical simulations related to RF sources and systems.*
- *Lead the effort that resulted in the so called XTCAV, the essential tool for measuring the pulse shape of the LCLS output. This tool was the foundation that allowed for a variety of measurements and the whole programs related to machine learning in conjunction with linac based FELs*
- *Created and led the US Collaboration on High Gradient Research for Future Colliders, I was the Spokesman for this collaboration for over 7 years*
- *APS-DPB Ph.D Thesis Award Committee Chair, 2008-2009*
- *Member of the advisory board and leading the US collaborative effort for the CLIC Test Facility at CERN.*
- *Since the late 1990's I was Leading a scientific group conducting pioneering research on high-power microwave systems:*
  - *This includes the development of novel solid-state devices and circuits*
  - *New CAD packages for the simulation of these devices and circuits,*
  - *new passive rf components, and novel vacuum electronics.*
  - *Our efforts resulted in world record in coherent and phase control RF power; we generated more than 0.5 GW of RF power with more than 200 Joules/pulse at x-band.*
- *Leading the collaboration effort on high power rf sources and pulse compression, within the International Study Group formed between SLAC and the High Energy Research Organization at Japan (KEK).*
- *The key person for the theoretical and experimental development of the microwave pulse compression and transport systems for*

*the Next Linear Collider Test Accelerator.*

- Led collaborative efforts between SLAC and industrial companies to produce commercial products based on technologies developed at SLAC.
- leading the theoretical effort to understand the RF breakdown phenomena. This include special experimental program to help guide the theoretical effort.
- Led the efforts to develop rf pulse compression systems for the Next Linear Collider.
- Led a collaborative effort between SLAC, KEK, industrial companies, and small research firms to design and conduct experiments to verify multimoded operation for waveguide transport lines. This effort ended with a successful use of the TE<sub>12</sub> mode in circular guides to transport rf signals for the first time.
- Led collaboration from the SLAC side with a group at NRL, and a group at ANL to study Plasma switched pulse compression systems, the Magnicon as a high power source at X-band, and dielectric loaded accelerator.
- Led and guided the collaboration between SLAC and small research firms to produce novel rf components for the Next Linear Collider.
- Developed special CAD packages for the simulation of high power Cross field amplifiers.
- Consultant for the US department of energy to review national labs programs
- Consultant for the US department of energy to review SBIR programs
- Consultant and reviewer for the National Science Foundation (NSF)
- Organized numerous workshops and special sessions for High power RF pulse compression and High gradient accelerator structures.
- Served on the program committee of IEEE Particle Accelerator Conferences, Advanced Accelerator Concepts Workshops, International Linac Conferences, CTF3 workshops, International Accelerator Structure Collaboration meetings, and X-Band Structures, Beam Dynamics and Sources Workshops.

#### **Patents:**

- Apparatus for mm-wave radiation generation utilizing whispering gallery mode resonators US patent 10172228B2, 2019.
- Arrays of accelerating structures and rapid imaging for facilitating rapid radiation therapies US Patent 9,962,562, 2018.
- Methods and systems for beam intensity-modulation to facilitate rapid radiation therapies, US Patent 9931522B2, 2018
- Methods and systems for beam intensity-modulation to facilitate rapid radiation therapies, US 20160310764 A1, Oct 2016
- Arrays of accelerating structures and rapid imaging for facilitating rapid radiation therapies, US 20160193482 A1, July 2016.
- RF Waveguide Phase-Directed Power Combiners, US Patent 20,150,340,752, 2015
- US5796314: Active high-power RF switch and pulse compression system
- US5801598: High-power RF load
- US9419322: Compact waveguide circular polarizer
- US9398681: Distributed coupling high efficiency linear accelerator
- US9386682: Distributed coupling and multi-frequency microwave accelerators
- US9287598: RF window assembly comprising a ceramic disk disposed within a cylindrical waveguide which is connected to rectangular waveguides through elliptical joints.

#### **Invited Talks at International Conferences:**

1. Sami Tantawi "Applications of e-Linacs, From Very Low and Low to Very High Energy, and From Warm to SC Technologies," IPAC 2017, Copenhagen, Denmark, 2017 May 14-19
2. Sami Tantawi, "Advanced High Gradient, High Efficiency RF Technology," NAPAC 2016
3. Sami Tantawi, "Perspectives on Ultra-Compact High Gradient RF Accelerator Technology," Nuclear Photonics, 2016
4. Sami Tantawi "Advanced High Frequency Acceleration" Fifteenth International Vacuum Electronics Conference (IVEC 2014) held on 22-24 April 2014 in Monterey, California.
5. Sami Tantawi "New X-band and above high gradient linacs," 27<sup>th</sup> Linear Accelerator Conference, Geneva Switzerland, August 2014.
6. Sami Tantawi, "RF helical undulator and its application to polarized positron production," The Pursuit of Polarized Positrons, POSIPOL 2012 workshop, 4-7 September 2012, DESY Zeuthen, Germany.
7. Sami Tantawi, "X-Band linacs," 2nd Workshop on Hadron Beam Therapy of Cancer, Erice, Sicily, Italy, May 20, 2011 - May 27, 2011.
8. Sami Tantawi, "RF Wigglers," Short Period Undulators for FELs workshop, June 21, 2011- June 23, 2011, LBNL Berkeley, CA, USA
9. Sami Tantawi, "High repetition Rate Linacs for FEL applications," 33rd International Free Electron Laser Conference, Shanghai, China August 22-26, 2011
10. Sami Tantawi, "X-band high-gradient linacs," The 13<sup>th</sup> workshop on Ion Beams In Biology And Medicine, 26-29 October, 2010, Berkeley, CA, USA.
11. Sami Tantawi, "Radio Frequency Undulators," Towards a 5th Generation Light Source Workshop, October 1-2, 2010, Avalon, Catalina, California.
12. Sami G. Tantawi, "Research and Development for Ultra High Gradient Accelerator Structures," Advanced Accelerator Workshop, June 13-19, 2010, Annapolis, Maryland.
13. Sami G. Tantawi, "Room temperature high rep-rate RF structures for light sources," 48th ICFA Advanced Beam Dynamics Workshop on Future Light Sources, March 1-5, 2010, Menlo Park, California
14. S. Tantawi, "High Gradient Structures," Particle Accelerator Conference, May 4-8, 2009, Vancouver, Canada
15. S. Tantawi, "Pushing the Limits of Microwave Linear Accelerators," American Association of Physicists in Medicine 51st Annual Meeting, July 21-26, Anaheim, California.
16. Sami Tantawi "High Gradient Acceleration Technologies," Plenary ECFA, European Physical Society meeting, July 21, 2007, Manchester, UK.

17. Sami G. Tantawi "The US Collaboration on High Gradient Research," 12<sup>th</sup> Advanced Accelerator Concepts Workshop, Lake Geneva, Wisconsin, July 10-15, 2006.
18. Sami G. Tantawi, "Status of High-Power Tests of the Dual Mode SLED-II System for an X-band Linear Collider," XXII International Linear Accelerator Conference, Lubeck, Germany, August 16-20, 2004
19. Sami G. Tantawi, "Multimoded RF Systems for Normal Conducting Future Linear Colliders," NATO Advanced Research Workshop on Quasi-Optical Control of Intense Microwave Transmission, Feb. 17-20, 2004- Nizhny Novgorod, Russia
20. Sami G. Tantawi, "Recent Advances in RF Pulse Compressor Systems at SLAC," RF 2003 workshop, June 22-26, Berkeley Springs, West Virginia, USA
21. Sami G. Tantawi "High Power Tests of a Multimode X-Band RF Distribution System," IEEE Particle Accelerator Conference, May 12-16, 2003, Portland Oregon.
22. Sami G. Tantawi "New Development in rf couplers for normal conducting linacs," Workshop on High-Power Couplers for Superconducting Accelerators, October 30 - November 1, 2002, Newport News, Virginia, USA
23. Sami G. Tantawi "RF Breakdown in high-vacuum structures" Advanced Accelerator Concepts Workshop, June 23-28, 2002, Mandalay Beach Resort, CA
24. Sami G. Tantawi, "Active and Passive RF Components for High-Power Systems," RF2001 workshop, Snowbird, Utah, October 1-5, 2001.
25. Sami G. Tantawi, "New Development in rf Pulse Compression," Sami G. Tantawi, Proc. Of the International XX-Linac Conference, Monterey, California, USA, August 21 - 25, 2000, p. 673-677
26. Invited to lead a discussion on Pulse Compression Systems at the Advanced Accelerator Concepts work shop, AAC2000, June 10-16, 2000, Santa Fe, New Mexico.
27. Sami G. Tantawi, "A Multi-moded Delay Line RF Distribution System for the Next Linear Collider," APS/AAPT Joint Meeting, April 18-21, 1998, Columbus, Ohio.
28. Sami G. Tantawi, "Active High-Power RF Pulse Compression Using Optically Switched Resonant Delay Lines," 14th National Radio Science Conference (URSI), March 23-26, 1997, Cairo, Egypt.

#### Publications:

1. Filippou Toufexis and Sami G. Tantawi, "Development of a millimeter-period rf undulator," Phys. Rev. Accel. Beams, Phys. Rev. Accel. Beams 22, 120701 – Published 23 December 2019.
2. Alysson Gold and Sami Tantawi, "A Classical Field Theory Formulation for the Numerical Solution of Time Harmonic Electromagnetic," IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2019.
3. Peter G. Maxim, Sami G. Tantawi, Billy W. Loo Jr., " PHASER: A platform for clinical translation of FLASH cancer radiotherapy," Radiotherapy and Oncology, Volume 139, October 2019, Pages 28–33
4. J. B. Rosenzweig, A. Cahill, V. Dolgashev, C. Emma, A. Fukasawa, R. Li, C. Limborg, J. Maxson, P. Musumeci, A. Nause, R. Pakter, R. Pompili, R. Roussel, B. Spataro, and S. Tantawi, "Next generation high brightness electron beams from ultrahigh field cryogenic rf photocathode sources," Phys. Rev. Accel. Beams 22, 023403 – Published 12 February 2019.
5. A. Gold and S. Tantawi, "Efficient dual space source interpolation method for the numerical solution of self-consistent static beam-wave interactions," Phys. Rev. Accel. Beams 21, 114403 – Published 7 November 2018.
6. Evgenya I. Simakova, Valery A. Dolgashev, Sami G. Tantawi, "Advances in high gradient normal conducting accelerator structures," Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment Volume 907, 1 November 2018, Pages 221-230.
7. A. D. Cahill, J. B. Rosenzweig, V. A. Dolgashev, S. G. Tantawi, and S. Weathersby, "High gradient experiments with X-band cryogenic copper accelerating cavities," Phys. Rev. Accel. Beams 21, 102002 – Published 23 October 2018.
8. J. B. Rosenzweig, A. Cahill, B. Carlsten, G. Castorina, M. Croia, C. Emma, A. Fukasawa, B. Spataro, D. Alesini, V. Dolgashev, M. Ferrario, G. Lawler, R. LicC. Limborg, J. Maxson, P. Musumeci, R. Pompili, S. Tantawi, O. Williams, "Ultra-high brightness electron beams from very-high field cryogenic radiofrequency photocathode sources," Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, to be published in Feb 2018.
9. A. D. Cahill, J. B. Rosenzweig, V. A. Dolgashev, Z. Li, S. G. Tantawi, and S. Weathersby, "rf losses in a high gradient cryogenic copper cavity," Phys. Rev. Accel. Beams 21, 061301 – Published 29 June 2018.
10. Dal Forno, M., Dolgashev, V., Bowden, G., Clarke, C., Hogan, M., McCormick, D., Novokhatski, A., O'Shea, B., Spataro, B., and Weathersby, S.: 'Measurements of electron beam deflection and rf breakdown rate from a surface wave guided in metallic mm-wave accelerating structures', Physical Review Accelerators and Beams, 2018, 21, (9), pp. 091301
11. Juwen W. Wang, Sami G. Tantawi, Chen Xu, Matt Franzi, Patrick Krejcik, Gordon Bowden, Shantha Condamoor, Yuantao Ding, Valery Dolgashev, John Eichner, Andrew Haase, James R. Lewandowski, and Liling Xiao, Development for a supercompact X-band pulse compression system and its application at SLAC, Phys. Rev. Accel. Beams 20, 110401 – Published 9 November 2017.
12. Massimo DalForno, Valery Dolgashev, Gordon Bowden, Christine Clarke, Mark Hogan, Doug McCormick, Alexander Novokhatski, Brendan O'Shea, Bruno Spataro, Stephen Weathersby, Sami G. Tantawi, "High gradient tests of metallic mm-wave accelerating structures," Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, Volume 864, 21 August 2017, Pages 12-28.
13. A. D. Cahill, Fukasawa R. Pakter, J. B. Rosenzweig, V. A. Dolgashev, C. Limborg-Deprey, S. Tantawi, B. Spataro, G. Castorinac, "RF design for the TOPGUN photogun: A cryogenic normal conducting copper electron gun," Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, Volume 865, 1 September 2017, Pages 105-108.
14. Filippou Toufexis, Sami G. Tantawi, Aaron Jensen, Valery A. Dolgashev, Andrew Haase, Michael V. Fazio, and Philipp Borchard, "Experimental demonstration of a 5th harmonic mm-wave frequency multiplying vacuum tube," Applied Physics Letters (Vol. 110, Issue 26), 30 June 2017.
15. Withanage, W.K., Xi, X., Nassiri, A., Lee, N., Wolak, M.A., Tan, T., Welander, P.B., Franzi, M., Tantawi, S., and Kustom, R.L.: 'Growth of magnesium diboride films on 2 inch diameter copper discs by hybrid physical-chemical vapor deposition', Superconductor Science and Technology, 2017, 30, (4), pp. 045001

16. Ni, Z., Guo, X., Welander, P.B., Yang, C., Franzi, M., Tantawi, S., Feng, Q., and Liu, K.: 'Fabrication and radio frequency test of large-area MgB<sub>2</sub> films on niobium substrates', *Superconductor Science and Technology*, 2017, 30, (4), pp. 045009
17. Massimo Dal Forno, Valery Dolgashev, Gordon Bowden, Christine Clarke, Mark Hogan, Doug McCormick, Alexander Novokhatski, Brendan O'Shea, Bruno Spataro, Stephen Weathersby, and Sami G. Tantawi, "rf breakdown measurements in electron beam driven 200 GHz copper and copper-silver accelerating structures," *Phys. Rev. Accel. Beams* 19, 111301 – November 2016.
18. Muhammad Shumail and Sami G. Tantawi, "Theory of electromagnetic insertion devices and the corresponding synchrotron radiation," *Phys. Rev. Accel. Beams* 19, 074001 –July 2016
19. Matthew Franzi, Juwen Wang, Valery Dolgashev, and Sami Tantawi, "Compact rf polarizer and its application to pulse compression systems," *Phys. Rev. Accel. Beams* 19, 062002, June 2016
20. Chen Xu, Sami Tantawi, and Juwen Wang, "Conceptual design of Xband waveguide dual circular polarizer," *Phys. Rev. Accel. Beams* 19, 062003 –June 2016
21. Whelan B, Keall P, Holloway L, Gierman S, Schmerge J, Tantawi S, Tremaine A, Trautwein A, Scott B, Fahrig R, "Design, Construction, and Installation of An Experimental Beam Line for the Development of MRI-Linac Compatible Electron Accelerator," *Med. Phys.* Vol. 43, June 2016.
22. Trovati S, Borchard P, King GJ, Limborg CG, Loo BW, Maxim P, McCormick D, Nicolas LY, Schueler E, Tantawi S, Wang J, Wang L, "Validation of a Novel Therapeutic X-Ray Array Source and Collimation System," *Med. Phys.* Vol. 43, June 2016.
23. Massimo Dal Forno, Valery Dolgashev, Gordon Bowden, Christine Clarke, Mark Hogan, Doug McCormick, Alexander Novokhatski, Bruno Spataro, Stephen Weathersby, and Sami G. Tantawi, "Experimental measurements of rf breakdowns and deflecting gradients in mm-wave metallic accelerating structures," *Physical Review Accelerators and Beams* 19 051302, May 2016.
24. Gatti, G., Marcelli, A., Spataro, B., Dolgashev, V., Lewandowski, J., Tantawi, S., Yeremian, A., Higashi, Y., Rosenzweig, J., and Sarti, S.: 'X-band accelerator structures: On going R&D at the INFN', *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 2016, 829, pp. 206-212
25. Chen Xu and Sami Tantawi, "Conceptual design of a sapphire loaded coupler for superconducting radio-frequency 1.3 GHz cavities," *Phys. Rev. Accel. Beams* 19, 022002, 25 February 2016.
26. V.A. Dolgasheva, G. Gatti, Y. Higashic, O. Leonardid, J.R. Lewandowskia, A. Marcellib,e, J. Rosenzweigf, B. Spatarob, S.G. Tantawia and D.A. Yeremiana, "High power tests of an electroforming cavity operating at 11.424 GHz," *Journal of Instrumentation*, Volume 11, March 2016.
27. C. Xu, S. Tantawi, and J. Wang, "Novel x-band waveguide dual circular polarizer," *Progress In Electromagnetics Research C*, Vol. 64, 79-87, 2016.
28. Massimo Dal Forno, Valery Dolgashev, Gordon Bowden, Christine Clarke, Mark Hogan, Doug McCormick, Alexander Novokhatski, Bruno Spataro, Stephen Weathersby, Sami G Tantawi, "rf breakdown tests of mm-wave metallic accelerating structures," *Physical Review Accelerators and Beams*, Jan 2016.
29. Whelan, B., Keall, P., Holloway, L., Gierman, S., Schmerge, J., Tantawi, S., Tremaine, A., Trautwein, A., Scott, B., and Fahrig, R.: 'TU-H-BRA-07: Design, Construction, and Installation of An Experimental Beam Line for the Development of MRI-Linac Compatible Electron Accelerator', *Medical physics*, 2016, 43, (6Part36), pp. 3770-3770
30. Trovati, S., Borchard, P., King, G., Limborg, C., Loo, B., Maxim, P., McCormick, D., Nicolas, L., Schueler, E., and Tantawi, S.: 'TU-H-BRC-09: Validation of a Novel Therapeutic X-Ray Array Source and Collimation System', *Medical physics*, 2016, 43, (6Part36), pp. 3767-3768
31. Chao Chang, Letian Guo, Sami G Tantawi, Yansheng Liu, Jiawei Li, Changhua Chen, Wenhua Huang , "A New Compact High-Power Microwave Phase Shifter," *IEEE Microwave Theory and Techniques*, Volume:63 Issue:6
32. A. Marcellia, B. Spataroa, S. Sartic, V.A. Dolgashev, S. Tantawi , D.A. Yeremian, Y. Higashie, R. Parodif, A. Notargiacomog, Junqing Xub, G. Cappuccia, G. Gattia, G. Cibirh, "Characterization of thick conducting molybdenum films: Enhanced conductivity via thermal annealing," *Surface and Coatings Technology*, Volume 261, 15 January 2015, Pages 391–397
33. Magdalena Bazalova-Carter, et. al., "Comparison of film measurements and Monte Carlo simulations of dose delivered with very high-energy electron beams in a polystyrene phantom," *Med. Phys.* 42, 1606 (2015)
34. R. Joel England et al., "Dielectric laser accelerators," *Rev. Mod. Phys.* 86, 1337 – Published 23 December 2014.
35. W. S. Graves, J. Bessuille, P. Brown, S. Carbajo, V. Dolgashev, K.-H. Hong, E. Ihloff, B. Khaykovich, H. Lin, K. Murari, E. A. Nanni, G. Resta, S. Tantawi, L. E. Zapata, F. X. Kärtner, and D. E. Moncton, "Compact x-ray source based on burst-mode inverse Compton scattering at 100 kHz," *Phys. Rev. ST Accel. Beams* 17, 120701 – Published 1 December 2014.
36. Ziran Wu, Robert Joel England, Cho-Kuen Ng, Benjamin Cowan, Christopher McGuinness, Chunhun Lee, Minghao Qi, and Sami Tantawi, "Coupling power into accelerating mode of a three-dimensional silicon woodpile photonic band-gap waveguide," *Phys. Rev. ST Accel. Beams* 17, 081301 – Published 19 August 2014.
37. Sami Tantawi, Muhammad Shumail, Jeffery Neilson, Gordon Bowden, Chao Chang, Erik Hemsing, and Michael Dunning, "Experimental Demonstration of a Tunable Microwave Undulator," *Phys. Rev. Lett.* 112, 164802 – Published 23 April 2014.
38. C Chang, DW Hei, C Pellegrini, S Tantawi, "High-gain X-ray free electron laser by beat-wave terahertz undulator," *Physics of Plasmas* 20 (12), 123110.
39. Towards Radiation Therapy with Very High Energy Electron Beams, M Bazalova, B Hardemark, E Hynning, M Dunning, D McCormick, M Liu, S Tantawi et. al. *Medical Physics* 40 (6), 474-474, 2013
40. Novel Compact Waveguide Dual Circular Polarizer, C Chang, SG Tantawi, S Church, J Neilson, PV Larkoski *Progress In Electromagnetics Research* 136, 1-16, 2013.
41. Palaia, A., Ziemann, V., Dolgashev, V., Lewandowski, J., Tantawi, S., and Weathersby, S.: 'High-gradient test of a X-band accelerator structure assembled in a klystron-driven resonant ring', *Physical Review Special Topics. Accelerators and Beams*, 2013.
42. Bini, S., Spataro, B., Marcelli, A., Sarti, S., Dolgashev, V., Tantawi, S., Yeremian, A., Higashi, Y., Grimaldi, M., and Romano, L.: 'Molybdenum sputtering film characterization for high gradient accelerating structures', *Chinese Physics C*, 2013, 37, (9), pp. 097005.

43. Brian J. Munroe, Alan M. Cook, Michael A. Shapiro, and Richard J. Temkin, Valery A. Dolgashev, Lisa L. Laurent, James R. Lewandowski, A. Dian Yeremian, and Sami G. Tantawi, "High power breakdown testing of a photonic band-gap accelerator structure with elliptical rods," *Phys. Rev. ST Accel. Beams* 16, 012005 (2013) [13 pages]
44. C. Chang, M. Shumail, S. Tantawi, J. Neilson, and C. Pellegrini, "Electron dynamics and transverse-kick elimination in a high-field short-period helical microwave undulator," *Appl. Phys. Lett.* 101, 161102 (2012)
45. Bini, S.; Chimenti, V.; Marcelli, A.; Palumbo, L.; Spataro, B.; Dolgashev, V.A.; Tantawi, S.; Yeremian, A.D.; Higashi, Y.; Grimaldi, M.G.; Romano, L.; Ruffino, F.; Parodi, R., "Development of X-band accelerating structures for high gradients," *Chinese Physics C* Volume: 36 Issue: 7 Pages: 639-47 Published: July 2012.
46. A coaxial 2D-periodic perforated directional coupler, YY Danilov, MI Petelin, S Tantawi, *Radiophysics and Quantum Electronics*, 1-6, 2012
47. Technology developments for a large-format heterodyne MMIC array at W-band, M Sieth, S Church, JM Lau, P Voll, T Gaier, P Kangaslahti, L Samoska, et. al, *International Journal of Microwave and Wireless Technologies* 4 (03), 299-307, 2012
48. Voll, P., Samoska, L., Church, S., Lau, J.M., Sieth, M., Gaier, T., Kangaslahti, P., Soria, M., Tantawi, S., and Van Winkle, D.: 'A G-band cryogenic MMIC heterodyne receiver module for astronomical applications', *International Journal of Microwave and Wireless Technologies*, 2012, 4, (3), pp. 283-289.
49. Theory and experiment of a compact waveguide dual circular polarizer, C Chang, S Church, SG Tantawi, PV Larkoski, M Sieth, K Devaraj, *Progress In Electromagnetics Research* 131, 211-225, 2012
50. Bazalova, M., Maxim, P., Tantawi, S., Colby, E., Koong, A., and Loo, B.: 'WE-C-BRB-05: Monte Carlo Simulations and Experimental Validation of Rapid Dose Delivery with Very High-Energy Electron Beams', *Medical Physics*, 2012, 39, (6Part26), pp. 3944-3944
51. Vikharev, A.L.; Ivanov, O.A.; Gorbachev, A.M.; Lobaev, M.A.; Isaev, V.A.; Tantawi, S.G.; Lewandowski, J.R.; Hirshfield, J.L. "X-band active-passive rf pulse compressor with plasma switches," *Physical Review Special Topics-Accelerators and Beams* Volume: 14 Issue: 12 Pages: 121302 (6 pp.) Published: Dec. 2011.
52. Neilson, J.; Tantawi, S.; Dolgashev, V. , "Design of RF feed system and cavities for standing-wave accelerator structure," *Nuclear Instruments & Methods in Physics Research, Section A (Accelerators, Spectrometers, Detectors and Associated Equipment)* Volume: 657 Issue: 1 Pages: 52-4 Published: 21 Nov. 2011
53. Anderson, S.G.; Albert, F.; Bayramian, A.J.; et al. "VELOCIRAPTOR: an X-band photoinjector and linear accelerator for the production of mono-energetic gamma-rays," *Nuclear Instruments & Methods in Physics Research, Section A (Accelerators, Spectrometers, Detectors and Associated Equipment)* Volume: 657 Issue: 1 Pages: 140-9 Published: 21 Nov. 2011.
54. Cappelletti, A.; Dolgashev, V.; Lewandoski, J.; Tantawi, S.; Weathersby, S.; Zelinski, J. "Demonstration of the high RF power production feasibility in the CLIC power extraction and transfer structure [PETS]," *Nuclear Instruments & Methods in Physics Research, Section A (Accelerators, Spectrometers, Detectors and Associated Equipment)* Volume: 657 Issue: 1 Pages: 78-81 Published: 21 Nov. 2011.
55. Spataro, B.; Alesini, D.; Chimenti, V.; et al. "High-power comparison among brazed, clamped and electroformed X-band cavities," *Nuclear Instruments & Methods in Physics Research, Section A (Accelerators, Spectrometers, Detectors and Associated Equipment)* Volume: 657 Issue: 1 Pages: 114-21, 2011
56. Spataro, B. et. al, "Technological issues and high gradient test results on X-band molybdenum accelerating structures," *Nuclear Instruments & Methods in Physics Research, Section A (Accelerators, Spectrometers, Detectors and Associated Equipment)* Volume: 657 Issue: 1 Pages: 114-21 Published: 21 Nov. 2011.
57. Y. Higashi, T. Higo, S. Matsumoto, K. Yokoyama, Zhang Xiaowei, Valery Dolgashev, Sami Tantawi, B. Spataro, "Progress on scanning field emission microscope development for surface observation," *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, Volume 657, Issue 1, 21 November 2011, Pages 156-159.
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