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Monday 20 May 2013

17:00-19:00 Registration open

Tuesday 21 May 2013

08:00 Registration

Plenary Session
Room: Louis Armand

08:30 Introduction
08:45 KA-SAT and Future HTS Systems м
Fenech, H.; EUTELSAT
09:20 The European Spallation Source о
McGinnis, D.; EUROPEAN SPALLATION SOURCE
09:55 The Diary of a TWT Engineer – Vacuum Tubes Don't Suck р
Carruthers, M.; Comtech Xicom Technology
10:30 Coffee Break
10:50 J. Pierce Award Ceremony
11:00 The Vitality of Vacuum Electronics т
Armstrong, C.; L-3 Communications Electron Devices
11:35 ITER Project and RF systems мл
Beaumont, B.; ITER Organization

12:10 Lunch Break

Session 1A: Thermionic Cathodes I
Chair: T. Grant (Communications & Power Industries, LLC)
Room: Louis Armand

14:00 **Keynote**: Environmental Influence on MM-type Dispenser Cathodes used in VED's and Propulsion Systems мн
Seidel,H. ;Schirra,M. ;Lazurenko,A. ; Weis,S. ;van Reijen,B. ;Genovese,A. ;Haderspeck,J. ;Holtmann, P.
Thales Airsystems & Electron Devices GmbH, (GERMANY)
14:20 Advanced CPR Cathode Research мп
Ives, L [1]; Read, M [1]; Marsden, D [1]; Collins, G [1]; Falce, L [2]; Busbaher, D [3]; Effgen, M [3]; Schwartzkopf, S [4]; Malygin, A [5]; Borchard, P [6]
[1]Calabazas Creek Research, Inc., (UNITED STATES); [2]Consultant, (UNITED STATES); [3]Semicon Associates, Inc., (UNITED STATES); [4]Ron Witherspoon, Inc., (UNITED STATES); [5]Karlsruhe Institute of Technology, (GERMANY); [6]Dymenso, LLC, (UNITED STATES)
14:40 A new Impregnated Dispenser Cathode мс
Shengyi, Yin [1]; Zhen, Peng [2]; Qiang, Zheng [3]; Yu, Wang [3]; Xinxin, Wang [3]; Yang, Li [1]
[1] Institute of Electronics, Chinese Academy of Sciences, (CHINA); [2]University of Chinese Academy of Sciences, (CHINA); [3]Institute of Electronics, Chinese Academy of Sciences, (CHINA)
15:00 Performance Comparison between Sintered Tungsten Dispenser Cathodes and Nano-Composite Scandate Dispenser Cathodes му
Busbaher, D. [1]; Zhao, J. [2]; Gamzina, D. [2]; Luhmann, N. [2]
[1]Semicon Associates, (UNITED STATES); [2]University of California Davis, (UNITED STATES)
15:20 1,000 A/cm2 Cathode: to be or not to be? нл
Taran, A. [1]; Kyslytsyn, O. [1]; Podshyvalova, O. [1]; Ordanjan, S. [2]
[1]National Aerospace University "Kharkiv Aviation Institute", (UKRAINE); [2]St. Petersburg State Technological Institute (Technical University), (RUSSIAN FEDERATION)

15:40 Performance Degradation Simulation for M-type Cathode Based on Ion Bombardment нн
Shi, X. [1]; Fan, H. [1]; Zhao, X. [1]; Song, F. [2]; Sun, X. [1]
[1]Southeast University, (CHINA); [2]Science and Technology on Reliability Physics and Application Technology of Electronic Component Lab, (CHINA)

Session 1B: Gyrodevices I
Chair: JP. Hogge (EPFL)
Room: Friedrich List

14:00 **Keynote**: First Tests of a 527 GHz Gyrotron for Dynamic Nuclear Polarization нп
Felch, K. [1]; Blank, M. [1]; Borchard, P. [1]; Cauffman, S. [1]; Rosay, M. [2]; Tometich, L. [2]
[1]Communications and Power Industries, (UNITED STATES); [2]Bruker Biospin, (UNITED STATES)

14:20 Compact Sub-THz Gyrotrons for Real-Time T-ray Imaging нс
Han, S.T.
Korea Electrotechnology Research Institute, (KOREA, REPUBLIC OF)

14:40 Manufacturing of a 263 GHz Continuously Tunable Gyrotron ну
Rozier, Y. [1]; Legrand, F. [1]; Lievin, C. [1]; Racamier, J.-C. [1]; Marchesin, R. [1]; Alberti, S. [2]; Braunmueller, F. [2]; Hogge, J.-Ph. [2]; Da Sliva, M. [2]; Tran, M.Q. [2]; Tran, T.M. [2]; Macor, A. [3]
[1]Thales Electron Devices, (FRANCE); [2]Centre de Recherches en Physique des Plasmas, EPFL, (SWITZERLAND); [3]Institute of Condensed Matter Physics, EPFL, (SWITZERLAND)

15:00 Analysis of Mode Competition in 10kW/28GHz Gyrotron ол
Malygin, A. [1]; Illy, S. [2]; Pagonakis, I. Gr. [2]; Avramides, K. [2]; Thumm, M. [2]; Jelonnek, J. [2]; D'Andrea, D. [2]; Ives, L. [3]; Munz, C.-D. [4]
[1]Karlsruhe Institute of Technology (KIT), (GERMANY); [2]Karlsruhe Institute of Technology, (GERMANY); [3]Calabazas Creek Research, Inc., (UNITED STATES); [4]Institute of Aerodynamics and Gasdynamics, University of Stuttgart, (GERMANY)

15:20 The Study of a High Power TE11 Ku-Band Gyro-TWT он
Wang, J. ; Luo, Y. ; Xu, Y. ; Deng, X.
University of Electronic Science and Technology of China, (CHINA)

15:40 Effect of Window Reflection on Mode Competition in Gyrotron оп
Usacheva, S.A. [1]; Chumakova, M.M. [1]; Glyavin, M.Yu. [2]; Novozhilova, Yu.V. [2]; Ryskin, N.M. [1]
[1]Saratov State University, (RUSSIAN FEDERATION); [2]Institute of Applied Physics, RAS, (RUSSIAN FEDERATION)

Session 1C: Space Application
Chair: S.Voigt (DLR)
Room: Georges Stephenson

14:00 **Keynote**: TWTA versus SSPA: A Comparison Update of the Boeing Satellite Fleet On-Orbit Reliability ос
Nicol, E.F. [1]; Mangus, B.J. [2]; Grebliunas, J.R. [2]; Woolrich, K [2]; Schirmer, J.R. [2]
[1]Boeing Company, (UNITED STATES); [2]Space & Intelligence Systems, Boeing Corporation, (UNITED STATES)

14:20 Reliability of TWTAs and MPMs in Orbit оу
Jaumann, G [1]; Gallego Jimenez, E [2]
[1]TESAT, (GERMANY); [2]TESAT Spacecom, (GERMANY)

14:40 Multibeam Satellites Performance Analysis in Non-Uniform Traffic Conditions пм
Aloisio, M. ; Lizarraga, J. ; Angeletti, P. ; Alagha, N.
European Space Agency ESA-ESTEC, (NETHERLANDS)

15:00 Use of Flexible LCTWTA for Communication Satellites по
Piro, F [1]; Joer, JP [1]; Frysiras, I [2]
[1]Eutelsat, (FRANCE); [2]Eutelsat, (GREECE)

15:20 Radiation Cooled TWTs at End-Of-Life: An Evaluation of Thermal Evolution Over 15 Years пр
Kaliski, M.
Space Systems/Loral, LLC, (UNITED STATES)

15:40 CAN bus based TM/TC Interface for Microwave Power Modules in Satcom Payloads пт
Freese, J. ; Kurz, R. ; Artmann, J. ; Stanka, T.
Tesat Spacecom, (GERMANY)

16:00 Coffee Break

Session 2A: Cold Cathodes I
Chair: P.Legagneux (Thales-TRT)
Room: Louis Armand

16:20 **Keynote**: Electron Over-Barrier Emission Mechanism of Single Layer Graphene пф
Liang, S. ; Ang , L. K.
Singapore U of Technology and Design, (SINGAPORE)
16:40 High Average Power Field Emitter Cathode and Testbed For X/Ku-Band Cold Cathode TWT рм
Whaley, D. [1]; Duggal, R. [1]; Armstrong, C. [1]; Holland, C. [2]; Spindt, C. [2]; Thibert, D. [2]
[1]L-3 Communications Electron Devices, (UNITED STATES); [2]SRI International, (UNITED STATES)
17:00 Carbon Nanotubes Electron Source ро
Ulisse, G. ; Ciceroni, C ; Brunetti, F ; Di Carlo, A
University of Rome "Tor Vergata", (ITALY)
17:20 Synthesized and Field Emission Properties of Carbon Tubes/Graphene Composite Films вк!
Hu, T. ; Zeng, Y. ; Xu, Z. ; Kang, D. ; Chen, Z.
University of Electronic Science and Technology of China, (CHINA)
17:40 The Matrix Field Emission Cathodes based on Carbon Nanotubes for Vacuum Electronic Devices вк!
Tarasov, E. [1]; Gulyaev, Yuri [2]; Sinitsyn, Nikolai [1]; Torgashov, Gennadi [1]; Grigoriev, Yuri [1]; Aban'shin, Nikolai [3]; Schalaev, Pavel [4]
[1]Saratov Devision of Kotel'nikov Institute of Radio Engineering and Electronic of RAS, (RUSSIAN FEDERATION); [2]Kotel'nikov Institute of Radio Engineering and Electronic of RAS, (RUSSIAN FEDERATION); [3]SRI «Volga», (RUSSIAN FEDERATION); [4]SRI «RPE «Almaz», (RUSSIAN FEDERATION)

Session 2B: Klystrons & Applications I
Chair: F.Peauger (CEA)
Room: Friedrich List

16:20 **Keynote**: Sheet Beam Extended Interaction Klystron (EIK) in W Band рр
Pasour, J. [1]; Wright, E. [2]; Nguyen, K. [2]; Balkcum, A. [3]; Levush, B. [4]
[1]Naval Research Laboratory, (UNITED STATES); [2]Beam Wave Research, Inc., (UNITED STATES); [3]CPI, (UNITED STATES); [4]Naval Research Lab, (UNITED STATES)
16:40 S-Band Sheet Beam Klystron Research and Development at SLAC рт
Jensen, A. ; Fazio, M. ; Haase, A. ; Jongewaard, E. ; Martin, D. ; Neilson, J. ; Sprehn, D. ; Vlieks, A.
SLAC National Accelerator Laboratory, (UNITED STATES)
17:00 A 48GHz, 500W CW Extended Interaction Klystron рф
Dobbs, R. ; Hyttinen, Mark ; Steer, Brian
CPI Canada, (CANADA)
17:20 14 kW High Power X-Band to Ka-Band Klystron Frequency Multiplier см
Fan, J.J ; Wang, Y.
Institute of Electronics, Chinese Academy of Sciences, (CHINA)
17:40 Development of a 10 kW CW High Efficiency S-Band PPM Klystron со
Ferguson, P ; Read, M ; Marsden, D ; Bui, T ; Ives, L
Calabazas Creek Research, Inc., (UNITED STATES)

Session 2C: Space TWT's amd TWTA's

Chair: W.Menninger (L-3 Communications Electron Technologies)
Room: Georges Stephenson

16:20 **Keynote**: Very High efficiency Dual Flexible TWTA, a flexible Concept allowing to deal with Performances and Schedule Constraints of Telecommunication Payloads cp
Cuignet, E. [1]; Tonello, E. [2]; Maynard, J. [2]; Boone, Ph. [3]
[1]THALES ALENIA SPACE, (BELGIUM); [2]THALES ALENIA SPACE, (FRANCE); [3]THALES ELECTRONIC DEVICES, (FRANCE)

16:40 Travelling Wave Tubes for Modern Satellite Communications bk!
Bosch, E.
Thales Electron Devices, (GERMANY)

17:00 mm-Wave Space Helix TWT Performance and Experience ct
Robbins, N. ; Dibb, D. ; Menninger, W.
L-3 Electron Technologies, Inc., (UNITED STATES)

17:20 Space-Qualified, 160-Watt Radiation-Cooled, X-band Helix TWT cϕ
Martin, R ; Menninger, W ; Zhai, X ; Blunk, S ; Feicht, J ; Mcgeary, W
L-3 Communications, ETI, (UNITED STATES)

17:40 A Novel Design of L-Band Lineariser for TWTA tm
Li, S.
Institute of Electronics, Chinese Academy of Sciences (IECAS), (CHINA)

18:45 Welcome Cocktail sponsored by Thales Electron Devices

Wednesday 22 May 2013

Session 3A: Klysrons and Applications II
Chair: S.Choroba (DESY)
Room: Louis Armand

08:30 **Keynote**: Overview on Pulsed UHF Sources at Thales Electron Devices TO
Beunas, A. ; Grezaud, M. ; Bel, C. ; Boussaton, A. ; Darges, B.
Thales Electron Devices, (FRANCE)

08:50 Applications of High Power Induction Output Tubes in High Intensity Superconducting Proton Linacs TP
McGinnis , D. [1]; Garoby, R. [2]; Gerick, G. [2]; Lindroos, M. [1]; Montesinos, E. [2]; Sunesson, A. [1]
[1]ESS, (SWEDEN); [2]CERN, (SWEDEN)

09:10 Some Technical Problems of the C-Band Broadband Multi-Beam Klystron TT
Ding, Y. ; Ding, H. ; Shen, B. ; Miao, Y.
Institute of Electronics, Chinese Academy of Sciences, (CHINA)

09:30 Design and Fabrication of a 10 MW, L-Band, Annular Beam Klystron TΦ
Read, M. ; Ferguson, P. ; Jackson, R. ; Marsden, D. ; Ives, L.
Calabazas Creek Research Inc., (UNITED STATES)

09:50 Lifetime and Reliability Analysis of Klystrons YM
Balkcum, A ; Habermann, T
CPI, (UNITED STATES)

10:10 Pulsed Depressed Collector for High-Efficiency RF Systems YO
Kemp, M.A. ; Jensen, A. ; Neilson, J.
SLAC National Accelerator Laboratory, (UNITED STATES)

Session 3B: 220 GHz
Chair: J. Booske (University of Wisconsin)
Room: Friedrich List

08:30 **Keynote**: Demonstration of a High Power, Wideband 220 GHz Serpentine Waveguide Amplifier Fabricated by UV-LIGA YP
Joye, C. [1]; Cook, A. [1]; Calame, J. [1]; Abe, D. [1]; Nguyen, K. [2]; Wright, E. [2]; Vlasov, A. [1]; Chernyavskiy, I. [1]; Kimura, T. [3]; Levush, B. [1]
[1]U.S. Naval Research Laboratory, (UNITED STATES); [2]Beam-Wave Research, (UNITED STATES); [3]Communications and Power Industries, Inc., (UNITED STATES)

08:50 A Compact, High-Power THz Source: Concept & Simulation YT
Bluem, H[1]; Jarvis, J[1]; Todd, A[1]; Jackson, R[2]
[1]Advanced Energy Systems, UNITED STATES; [2]Jackson Science Consulting, UNITED STATES

09:10 Breakthrough UV-LIGA Microfabrication of Sub-mm and THz Circuits YΦ
Joye, C.; Cook, A.; Calame, J.; Abe, D.; Levush, B.
U.S. Naval Research Laboratory, UNITED STATES

09:30 220 GHz Power Amplifier Testing at Northrop Grumman ΦM
Kreischer, K ; Tucek, J ; Basten, M ; Gallagher, D
Northrop Grumman, (UNITED STATES)

09:50 220 GHz Ultra Wide Band TWTA: Nano CNC Fabrication and RF testing ΦO
Baig, A. ; Gamzina, D. ; Barchfeld, R. ; Zhao, J. ; Domier, C. W. ; Spear, A. ; Barnett, L. R. ; Luhmann, N. C.
University of California - Davis, (UNITED STATES)

10:10 High Power CW 264 GHz Tunable Extended Interaction Oscillator ΦP
Roitman, A. ; Horoyski, P. ; Steer, B. ; Berry, D.
CPI Canada, (CANADA)

Session 3C: RF Modeling
Chair: E.Bosch (TED)
Room: Georges Stephenson

08:30 **Keynote**: An External Circuit Model for Electromagnetic Particle-In-Cell Simulations фт
Lin, M. C. ; Zhou, C. D. ; Smithe, D. N.
Tech-X, (UNITED STATES)

08:50 A 3D Large Signal Model for Helix TWT* фф
David, J-F ; Bariou, D.
Thales Electron Devices, (FRANCE)

09:10 TWT Stability for Frequencies near a Band Edge млм
Chernin, D. [1]; Antonsen, T.M. [2]; Vlasov, A.N. [3]; Nguyen, K.N. [4]; Joye, C.D. [3]; Cooke, S.J. [3]; Levush, B. [3]
[1]SAIC, (UNITED STATES); [2]University of Maryland, (UNITED STATES); [3]Naval Research Laboratory, (UNITED STATES); [4]Beam-Wave Research, Inc., (UNITED STATES)

09:30 Conformal Time-Domain Particle-in-Cell Simulation of Vacuum Electronic Devices with Accurate Surface Loss мло
Cooke, S. ; Stantchev, G.
Naval Research Laboratory, (UNITED STATES)

09:50 SUNRAY-1D and SUNRAY-2.5D Codes for Large-Signal Analysis of a Space TWT млр
Srivastava, V.
CSIR Central Electronics Engineering Research Institute, (INDIA)

10:10 Application of External Circuit Model to MIG Gun LFO Study млт
Smithe, D. ; Lin, M. C. ; Zhou, S.
Tech-X Corporation, (UNITED STATES)

10:30 Coffee Break

Session 4A: High Power Microwaves I
Chair: M.Clark (TMD Technologies Ltd)
Room: Louis Armand

10:50 **Keynote**: Numerical Evaluation of the Role of Reflectors to Maximize the Power Efficiency of an Axial Vircator млф
Champeaux, S [1]; Gouard, P [1]; Cousin, R [2]; Larour, J [3]
[1]CEA, (FRANCE); [2]CST AG, (FRANCE); [3]LPP, UMR7648 CNRS, Ecole Polytechnique, (FRANCE)

11:10 Microwave Oscillations in the Recirculating Planar Magnetron ммм
Franzi, M. [1]; Gilgenbach, R [1]; French, D [2]; Hoff, B [2]; Lau, Y.Y. [1]; Simon, D [1]; Greening, G [1]; Jordan, N [1]; Luginsland, J [3]
[1]University of Michigan, (UNITED STATES); [2]Air Force Research Laboratory, (UNITED STATES); [3]Air Force Office of Scientific Research, (UNITED STATES)

11:30 Self-similar Regimes of Short Electromagnetic Pulses Amplification and Compression by Quasi-Stationary Electron Beams ммо
Ryskin, N.M. [1]; Ginzburg, N.S. [2]; Zotova, I.V. [2]
[1]Saratov State University, (RUSSIAN FEDERATION); [2]Institute of Applied Physics, RAS, (RUSSIAN FEDERATION)

11:50 Unique Multi-Physics Approach of Self Phase Locked Magnetron (SPLM) System with CST STUDIO SUITE™ ммр
Balk, Monika [1]; Baek, Seungwon [2]; Kim, Hyungjong [3]; Kim, Kiho [3]; Choi, Jinjoo [4]
[1]CST AG, (GERMANY); [2]CST OF AMERICA, Inc., (UNITED STATES); [3]LIG NEX1, (KOREA, REPUBLIC OF); [4]Kwangwoon University, (KOREA, REPUBLIC OF)

12:10 Relativistic Magnetron-Driven Microwave Pulse Compressor based on the Traveling Wave Resonator ммy
Sayapin, A.; Levin, A.; Krasik, Ya.
Technion, ISRAEL

Session 4B: Broadband and mm wave TWT's
Chair: Jinjun Feng (Beijing, Vacuum Electronics Research Institute)
Room: Friedrich List

10:50 **Keynote**: Development of High-Power Broadband Ka-band Cascaded-TWT МНЛ
Nguyen, K [1]; Pershing, D [1]; Pasour, J [2]; Ludeking, L [3]; Wright, E [1]; Myers, R [1]; Vlasov, A [2]; Abe, D [2]; Levush, B [2]; Petillo, J [4]; Chernin, D [4]
[1]Beam-Wave Research, Inc., (UNITED STATES); [2]Naval Research Laboratory, (UNITED STATES); [3]ATK-Mission Research, (UNITED STATES); [4]SAIC, (UNITED STATES)

11:10 Development of wide Band Helix Mini-TWT with "strong" Phase Velocity Control МНН
Martorana, Rosario ; Dionisio, R. ; Nicosia, A.
Selex ES, (ITALY)

11:30 1.8 kWatt Broad Band Ka-band TWT Power Booster МНП
Levush, B. [1]; Abe, D. [1]; Vlasov, A.N. [1]; Chernyavskiy, I. [1]; Cooke, S.J. [1]; Legarra, J. [2]; Nguyen, K.N. [2]; Cusick, M. [3]; Begum, R. [3]; Stockwell, B. [3]; Ramirez-Aldana, J.L. [3]; Chernin, D. [4]
[1]Naval Research Laboratory, (UNITED STATES); [2]Beam-Wave Research, Inc., (UNITED STATES); [3]CPI, (UNITED STATES); [4]SAIC, (UNITED STATES)

11:50 Investigation of 0.14THz Folded Waveguide TWT МНС
Wang, Yajun
Institute of Electronic Engineering China Academy of Engineering Physics, (CHINA)

12:10 Modeling of the NRL G-Band TWT Amplifier Using the CHRISTINE and TESLA Simulation Codes МНУ
Vlasov, A. [1]; Chernyavskiy, I. [1]; Joye, C. [1]; Cook, A. [1]; Calame, J [1]; Levush, B. [1]; Chernin, D. [2]; Antonsen Jr., T. [2]; Nguyen, K. [3]
[1]Naval Research Laboratory, (UNITED STATES); [2]Science Applications International Corporation, (UNITED STATES); [3]Beam-Wave Research Inc, (UNITED STATES)

Session 4C: Cold Cathodes II
Chair: D.Whaley (L-3 Communications Electron Devices Division)
Room: Georges Stephenson

10:50 **Keynote**: Microfocus X-Ray Tube Based on CNT Array МОЛ
Chen, Z. ; Wang, Z. ; Hu, T. ; Zeng, Y. ; Tang, N.
University of Electronic Science and Technology of China, (CHINA)

11:10 Emittance and Emission from Arrays with Statistical Variation МОН
Panagos, D. [1]; Jensen, K. [2]; Petillo, J. [1]
[1]Science Applications International Corp., (UNITED STATES); [2]US Naval Research Laboratory, (UNITED STATES)

11:30 Enhanced Field Emission from Chemically Synthesized Cadmium Sulphide-Polyaniline (CdS-PANI) Nanotube Composite МОП
Patil, S. ; Shinde, A. ; Joag, D. ; More, M.
University of Pune, (INDIA)

11:50 3D Simulations of Secondary Electron Emission from Hydrogen-Terminated Diamond МОС
Dimitrov, D. [1]; Wang, E. [2]; Smedley, J. [2]; Ben-Zvi, I. [2]; Rao, T. [2]
[1]Tech-X Corporation, (UNITED STATES); [2]Brookhaven National Laboratory, (UNITED STATES)

12:10 A Novel Silicon Nanowire-based Electron Detector Utilized in Field Emission Scanning Electron Microscopes МОУ
Hajmirzaheydarali, M. ; Akbari, M. ; Mohajerzadeh, S.
University of Tehran, (IRAN, ISLAMIC REPUBLIC OF)

12:30 Lunch Break

14:00-18:00 Poster Session I

Session 5A: Microwave Tube Technologies
Chair: F.Doveil (Univ. of Marseille)
Room: Louis Armand

14:00 **Keynote**: Diminishing Manufacturing Sources and Material Sources Impacting the Microwave Tube Industry мпл
Mitsdarffer, K.
NSWC Crane, (UNITED STATES)

14:20 High Power RF Window for Multi-Megawatt Power Transmission мпн
Ives, L [1]; Marsden, D [1]; Collins, G [1]; Lucovsky, G [2]; Zeller, D [2]; Schamiloglu, E [3]
[1]Calabazas Creek Research, Inc., (UNITED STATES); [2]N.C. State University, (UNITED STATES); [3]University of New Mexico, (UNITED STATES)

14:40 Preliminary Results on the Multipactor Effect Prediction in RF Components with Ferrites мпп
Puech, J.
CNES, (FRANCE)

15:00 Ka-Band Gyro-TWA Waveguide Severs for Circularly Polarized Waves. мпс
Whyte, C
University of Strathclyde, UNITED KINGDOM

15:20 A 15-Beam Electron Gun for an X-Band Klystron мпу
Read, M [1]; Ives, L [1]; Ferguson, P [1]; Marsden, D [1]; Collins, G [1]; Borchard, P [2]
[1]Calabazas Creek Research, Inc., (UNITED STATES); [2]Dymenso, LLC, (UNITED STATES)

15:40 Experimental Investigation of the Influence of Electron Incidence Angle on the Total Electron Emission Yield of Silver мрл
Gineste, T [1]; Belhaj, M [1]; Bundaleski, N [2]; Teodoro, O [2]; Pons, C [1]; Puech, J [3]
[1]ONERA, (FRANCE); [2]CEFITEC, (PORTUGAL); [3]CNES, (FRANCE)

Session 5B: Microwave Circuit Design
Chair: KH.Hübner (TESAT spacecom)
Room: Friedrich List

14:00 **Keynote**: New Klystron Topology Based on Periodic Sequence of High Order Mode Cavities мрн
Paoloni, C.
Lancaster University, (UNITED KINGDOM)

14:20 On the Use of Metamaterials for Increasing of Output Power of Multibeam Klystrons мрп
Galdetskiy, A.
FSUE Istok, (RUSSIAN FEDERATION)

14:40 Corkscrew Modulated Hollow-Beam Klystron for High Power and Frequency Multiplying Applications мрс
Grede, A. G. ; Henke, H.
Technische Universitaet Berlin, (GERMANY)

15:00 Folded Meander-Line Slow-Wave Structure for Millimeter-Wave Traveling-Wave Tubes мру
Sumathy, M [1]; Datta, S. K [2]; Lalit, Kumar [2]
[1]MTRDC, (INDIA); [2]MTRDC/DRDO, (INDIA)

15:20 Design of an Unconnected Pair of Planar Helices with Straight-Edge Connections for Application in TWTs мсл
Zhao, C. [1]; Aditya, S. [1]; Chua, C. [2]; Jin, C. [3]
*[1]Nanyang Technological University, (SINGAPORE); [2]Institute of High Performance Computing, A*STAR, (SINGAPORE); [3]Institute of Microelectronics, A*STAR, (SINGAPORE)*

15:40 Open Planar Sheath Slow-Wave Structure мсн
Nguyen, L ; Antonsen, T ; Nusinovich, G
University of Maryland, College Park, (UNITED STATES)

16:00 Coffee Break

Session 6A: Gyrodevices II
Chair: E.Jensen (CERN)
Room: Louis Armand

16:20 **Keynote**: Recent Results in Development in Russia of Megawatt Power Gyrotrons for Fusion МСП
Denisov, G. [1]; Litvak, A.G. [1]; Zapevalov, V.E. [1]; Myasnikov, V.E. [2]; Tai, E.M. [2]; Popov, L.G. [2]; Nichiporenko, V.O. [2]; Usachev, C.V. [2]; Soluyanova, E.A. [2]; Kazansky, I.V. [2]; Kruglov, A.V. [2]; Sokolov, E.V. [2]; Ilin, V.I. [3]
[1]Institute of Applied Physics, (RUSSIAN FEDERATION); [2]GYCOM Ltd, (RUSSIAN FEDERATION); [3]Kurchatov Institute, (RUSSIAN FEDERATION)

16:40 Design and Operation of a 2 MW CW, RF Load for Gyrotrons МСС
Ives, L. [1]; Mizuhara, M [1]; Collins, G. [1]; Borchard, P [2]; Neilson, J [3]
[1]Calabazas Creek Research, Inc., (UNITED STATES); [2]Dymenso, LLC, (UNITED STATES); [3]Lexam Research, (UNITED STATES)

17:00 Status of high Power Gyrotron Development in JAEA МСУ
Sakamoto, K ; Kajiwara, K ; Oda, Y ; Hayashi, K ; Takahashi, K ; Kobayashi, T ; Moriyama, S
Japan Atomic Energy Agency, (JAPAN)

17:20 Towards the Design of 100 kW, 95 GHz Gyrotron for Active Denial System Application МТЛ
Singh, Udaybir
CEERI, (INDIA)

17:40 Design of the EU-1MW Gyrotron for ITER МТН
Pagonakis, I. Gr. [1]; Gantenbein, G. [1]; Jelonnek, J. [1]; Jin, J. [1]; Illy, S. [1]; Kern, S. [1]; Piosczyk, B. [1]; Rzesnicki, T. [1]; Thumm, M. [1]; Alberti, S. [2]; Hogge, J.-P. [2]; Schlatter, C. [2]; Tran, M.-Q. [2]; Avramides, K. A. [3]; Vomvoridis, J. L. [3]; Ioannidis, Z. C. [4]; Latsas, G. P. [4]; Tigelis, I. G. [4]; Bruschi, A. [5]; Lontano, M. [5]; Dumbrajs, O. [6]; Benin, P. [7]; Rozier, Y. [7]; Albajar, F. [8]; Bonicelli, T. [8]; Cismondi, F. [8]
[1]Karlsruhe Institute of Technology (KIT), (GERMANY); [2]EPFL-CRPP, (SWITZERLAND); [3]National Technical University of Athens, (GREECE); [4]National and Kapodistrian University, (GREECE); [5]Istituto di Fisica del Plasma CNR, (ITALY); [6]Institute of Solid State Physics, University of Latvia, (LATVIA); [7]Thales Electron Devices, (FRANCE); [8]The European Joint Undertaking for ITER and the Development of Fusion Energy, (SPAIN)

Session 6B: Power Supplies and Transmitters
Chair: L.Nilsson (Saab)
Room: Friedrich List

16:20 **Keynote**: A 100 Watt W-Band MPM МТП
Wan, C. ; Marotta, C. ; Zubyk, A. ; Tucker, G. ; Meadows, C. ; True, R. ; Schoemehl, T. ; Duggal, R. ; Kirshner, M. ; Kowalczyk, R. ; Armstrong, C.
L-3 Communications Electron Devices, (UNITED STATES)

16:40 Robust High-Average-Power Modulator МТР
Kempkes, Michael ; Roth, Ian ; Butler, Neal ; Gaudreau, Marcel
Diversified Technologies, Inc., (UNITED STATES)

17:00 Progress of an Integrated TWT for Phased Array Application МТТ
Hu, Y. F ; Feng, J. J ; Liu, M. H ; Cai, J ; Wu, X. P ; Liao, F. J
Beijing Vacuum Electronics Research Institute, (CHINA)

17:20 Affordable, Short Pulse Marx Modulator МТФ
Kempkes, Michael [1]; Phillips, Robert [1]; Gaudreau, Marcel [1]; Casey, Jeff [2]
[1]Diversified Technologies, Inc., (UNITED STATES); [2]Rockfield Research, Inc., (UNITED STATES)

17:40 A 200W High Power MPM МУМ
Brown, N.R. ; Chan, D. ; Watkins, R. ; Springmann, D. ; Donald, A. ; Duggal, R. ; Schoemehl, T.
L3 Communications Electron Devices, (UNITED STATES)

18:00 End of afternoon Sessions

18:45 *Departure for Conference Dinner at Musée des Arts Forains*

Thursday 23 May 2013

08:30-12:30 Poster Session II

Session 7A: Gyrodevices III
Chair: J.Jelonnek (KIT)
Room: Louis Armand

08:30 **Keynote**: A High Gain Photonic Band Gap Gyrotron Amplifier муо
Nanni, E. ; Lewis, S. ; Shapiro, M. ; Temkin, R.
MIT, (UNITED STATES)

08:50 Operation of a Step-Frequency Tunable Gyrotron with a Diamond Brewster Angle Output Window мур
Gantenbein, G. [1]; Dammertz, G. [1]; Jelonnek, J. [1]; Losert, M. [1]; Samartsev, A. [1]; Schlaich, A. [1]; Scherer, T. [1]; Strauss, D. [1]; Thumm, M. [1]; Wagner, D. [2]
[1]Karlsruhe Institute of Technology, (GERMANY); [2]Max Planck Institut für Plasmaphysik, (GERMANY)

09:10 High-Power Ka-band Gyroklystron Oscillator with Time-Delayed Feedback мут
Danilov, Yu.Yu. [1]; Guznov, Yu.M. [1]; Zaitsev, N.I. [1]; Kuzikov, S.V. [1]; Novozhilova, Yu.V. [1]; Shevchenko, A.S. [1]; Rozhnev, A.G. [2]; Ryskin, N.M. [2]
[1]Institute of Applied Physics, RAS, (RUSSIAN FEDERATION); [2]Saratov State University, (RUSSIAN FEDERATION)

09:30 W-band Gyro-TWA using a Cusp Electron Gun and a Helically Corrugated Interaction Region муф
He, W.
University of Strathclyde, (UNITED KINGDOM)

09:50 Experimental Study of a Q-Band Gyro-TWT мфм
Liu, B. T. ; Li, Z. L. ; Wang, E. ; Xu, Z. ; Zhu, Y. ; Feng, J. J. ; Yan, T. Ch.
Beijing Vacuum Electronics Research Institute, (CHINA)

10:10 Frequency Multiplication in Relativistic Gyro-Klystron Operating with Combination of TE-TM Modes мфо
Denisov, G. ; Zaitsev, N.I. ; Ahmedzhanov, T.R. ; Guznov, Yu.M. ; Kalynova, G.I. ; Kuftin, A.N. ; Moiseev, M.A. ; Shevchenko, A.S.
Institute of Applied Physics, (RUSSIAN FEDERATION)

Session 7B: Beam Optics
Chair: D. Chernin (SAIC)
Room: Friedrich List

08:30 **Keynote**: Design Considerations for Linear Beam Devices Employing Emittance Dominated Electron Beams мфр
Whaley, D.
L-3 Communications Electron Devices, (UNITED STATES)

08:50 Experimental Investigation on Sheet Electron Beam Transport with Electron Beam Measuring and Analyzing System Developed in IECA мфт
Ruan, Cunjun [1]; Li, Qingsheng [2]; Wang, Shuzhong [2]; Yang, Xiudong [2]; Wu, Xunlei [2]; Chongshan, Li [2]
[1]Key Laboratory of High Power Microwave Sources and Technologies, Institute of Electronics, Chinese A, (CHINA);
[2]Institute of Electronics, Chinese Academy of Sciences, (CHINA)

09:10 Advances in Beam Optics Analyzer мфф
Bui, T. ; Read, Mike ; Ives, Lawrence ; Marsden, David ; Ferguson, Patrick ;
Calabazas Creek Research, Inc., (UNITED STATES);

09:30 Novel Scaling Laws for the Langmuir-Blodgett Solutions in Cylindrical and Spherical Diode нлм
Zhu, Y. B. [1]; Zhang, P. [2]; Valfells, A. [3]; Ang, L. K. [4]; Lau , Y. Y. [2]
[1]Nanyang Technological University, (SINGAPORE); [2]University of Michigan, (UNITED STATES); [3]Reykjavik University, (ICELAND); [4]Singapore U of Technology and Design, (SINGAPORE)

09:50 Analysis of Quadrupole Focusing Lattices for Electron Beam Transport in Traveling-Wave Tubes нло
Nichols, K [1]; Schamiloglu, E [1]; Carlsten, B [2]
[1]University of New Mexico, (UNITED STATES); [2]Los Alamos National Laboratory, (UNITED STATES)

10:10 Electrostatic Focusing for a Field Emission Electron Source нлр
Jabotinski, V.[1]; Pasour, J.[2]; Nguyen, K. T.[1]; Petillo, J.[3]; Levush, B.[2]; Abe, D.[2]
[1]Beam-Wave Research, UNITED STATES; [2]U. S. Naval Research Laboratory, UNITED STATES; [3]Scientific Applications International Corporation, UNITED STATES

10:30 Coffee Break

Session 8A: High Power Microwaves II
Chair: A.Galdetskiy (ISTOK)
Room: Louis Armand

10:50 **Keynote**: Locked Generation in Relativistic TWT near Region of Cyclotron Suppression of Parasitic Feedback нлт
Schamiloglu, E.
University of New Mexico, (UNITED STATES)

11:10 Technological Development for X-band Plasma Assisted Slow Wave Oscillator (PASOTRON) нлф
Kumar, N. ; Verma, D ; Ahmed, M ; Pal, U ; Kumar, M ; Prakash, R ; Srivastava, V
CSIR-CEERI, (INDIA)

11:30 Plasma-Tunable Metamaterials and Periodic Structures нмм
Liu, Chien-Hao ; Behdad, Nader
Department of Electrical and Computer Engineering University of Wisconsin-Madison, (UNITED STATES);

11:50 High-Power Microwave Pulse Compressor Operating in Two Frequencies нмо
Shlapakovski, A. ; Beilin, L. ; Krasik, Ya.
Technion, (ISRAEL)

12:10 Feasibility of Quantum Analogues of Classical Microwave Devices on Longitudinal Interaction нмр
Mozgovoi, Yu. D. [1]; Kanavets, V. I. [2]; Khritkin, S. A. [1]
[1]National Research University Higher School of Economics, (RUSSIAN FEDERATION); [2]Lomonosov Moscow State University, (RUSSIAN FEDERATION)

Session 8B: W Band TWT's
Chair: R.Martorana (SELEX ES)
Room: Friedrich List

10:50 **Keynote**: A 100 Watt W-Band MPM TWT нмт
Kowalczyk, R. ; Zubyk, A. ; Meadows, C. ; Martin, M. ; Kirshner, M. ; True, R. ; Theiss, A. ; Rominger, J. ; Armstrong, C.
L-3 Communications Electron Devices, (UNITED STATES)

11:10 Development of W-band Folded Waveguide pulsed TWT нмф
Cai, J ; Feng, Jinjun ; Hu, Yinfu ; Du, Yinghua ; Tang, Ye ; Liu, Jingkai ; Dong, Ruitong ; Chen, Ji ; Wu, Xianping
Beijing Vacuum Electronics Research Intitute, (CHINA);

11:30 Design of a Wideband High-Power W-band Serpentine TWT ннм
Nguyen, K [1]; Ludeking, L [2]; Cook, A [3]; Cooke, S [3]; Joye, C [3]; Calame, J [3]; Burke, A [4]; Wright, E [1]; Pershing, D [1]; Pasour, J [3]; Petillo, J [4]; Vlasov, A [3]; Chernin, D [4]; Abe, D [3]; Levush, B [3]
[1]Beam-Wave Research, Inc., (UNITED STATES); [2]ATK-Mission Research, (UNITED STATES); [3]Naval Research Laboratory, (UNITED STATES); [4]SAIC, (UNITED STATES)

11:50 Experimental Measurement of W-band Backward-Wave Amplification Driven by External Pulsed Signals нно
Baik, C. W.
Samsung Advanced Institute of Technology, (KOREA, REPUBLIC OF)

12:10 Effects of Random Circuit Fabrication Errors on the Mean and Standard Deviation of Small Signal Gain and Phase in a TWT HHP
Rittersdorf, I.M. [1]; Antonsen, Jr., T.M. [2]; Chernin, D. [3]; Lau, Y.Y. [1]
[1]University of Michigan, (UNITED STATES); [2]University of Maryland, (UNITED STATES); [3]Science Applications International Corporation, (UNITED STATES)

12:30 Lunch Break

14:00-18:00 Poster Session III

Session 9A: Microwave Design and RF Modeling
Chair: N.Ryskin (Saratov)
Room: Louis Armand

14:00 **Keynote**: Parallel 2D Large-signal Modeling of Cascaded TWT Amplifiers HHT
Chernyavskiy, I. [1]; Vlasov, A. [2]; Levush, B. [2]; Antonsen, T. [3]; Nguyen, K. [4]
[1]Naval Research Laborartory, (UNITED STATES); [2]Naval Research Laboratory, (UNITED STATES); [3]SAIC, (UNITED STATES); [4]Beam-wave Research, Inc., (UNITED STATES)

14:20 Design of the Radio Frequency Section of a J-band Multiple Beam Klystron HHФ
Bandyopadhyay, A.K. [1]; Maity, S. [2]; Joshi, L.M. [1]; Kant, D. [1]; Singh, A.K. [1]
[1]Central Electronics Engineering Research Institute (CSIR-CEERI), (INDIA); [2]Greater Kolkata College of Engineering and Management, (INDIA)

14:40 Hamiltonian Description of Electron Dynamics and its Radiated Field in a Periodic Structure HOM
ANDRÉ, F. [1]; BERNARDI, P. [1]; RYSKIN, N. M. [2]; DOVEIL, F. [3]; ELSKENS, Y. [3]
[1]Thales Electron Devices, (FRANCE); [2]Saratov State University, (RUSSIAN FEDERATION); [3]UMR 7345 CNRS–Aix-Marseille-Université, (FRANCE)

15:00 Dispersive Properties of Serpentine and Folded Waveguide Circuits HOO
Vlasov, A. [1]; Chernyavskiy, I. [1]; Levush, B. [1]; Chernin, D. [2]; Antonsen Jr., T. [2]; Nguyen, K. [3]
[1]Naval Research Laboratory, (UNITED STATES); [2]Science Applications International Corporation, (UNITED STATES); [3]Beam-Wave Research Inc., (UNITED STATES)

15:20 The Circuit Design and Particle-in-Cell Simulation for W-Band High-Power Extended Interaction Klystron HOP
Zhang, C. Q. ; Ruan, C. J. ; Zhao, D. ; Wang, S. Z. ; Yang, X. D.
Institute of Electronics, Chinese Academy of Sciences, (CHINA)

15:40 Bi-helix SWS for High-Power TWTs HOT
Pchelnikov, Y.N. [1]; Vlasov, A.N. [2]; Chernin, D. [3]
[1]Consultant, (UNITED STATES); [2]Naval Research Laboratory, (UNITED STATES); [3]SAIC, (UNITED STATES)

Session 9B: Thermionic Cathodes II
Chair: I.Milsom (E2V Technologies)
Room: Friedrich List

14:00 **Keynote**: An Ammonium Perrhenate Impregnated Ni Sponge Oxide Cathode HOФ
Wang, Xiaoxia ; Zhao, Qinglan ; Luo, Jirun ; Li, Yun ; Liao, xianheng ; Zhang, Qi
Institute of Electronics, Chinese Academy of Sciences, (CHINA)

14:20 Scandate Cathode with Sharp Transition HПM
Vancil, B. [1]; Brodie, I. [2]; Schmidt, V. [3]; Lorr, J. [3]
[1]e beam, inc., (UNITED STATES); [2]University of California, Davis, (UNITED STATES); [3]e beam inc., (UNITED STATES)

14:40 Sol-gel Synthesis of Sc2O3 Doped W Nano-particle for Cathode Application HПO
Barik, R. ; Bera, A. ; Tanwar, A.K. ; Baek, I.K. ; Eom, K. ; Sattorov, M.A. ; Min, S.H. ; Kwon, O.J. ; Park, G-S
Seoul National University, (KOREA, REPUBLIC OF)

15:00 Surface Characteristics of Scandate Dispenser Cathodes during Life нпр
Wang, Y. ; Wang, J. ; Zhang, X. ; Wang, X. ; Yang, F. ; Liu, W.
Beijing University of Technology, (CHINA)

15:20 Emission Energy Barriers of Scandate Surfaces with adsorbed Ba and Ba-O using Density Functional Theory нпт
Jacobs, R. ; Morgan, D. ; Booske, J.
University of Wisconsin- Madison, (UNITED STATES)

15:40 LaB6 Cathode Workfunction Evaluation нпф
Katsap, V
NuFlare Technology, UNITED STATES

16:00 Coffee Break

Session 10A: THz
Chair: C.Paoloni (Univ. of Lancaster)
Room: Louis Armand

16:20 **Keynote**: Testing of a 0.850 THz Vacuum Electronic Power Amplifier нрм
Tucek, J. C. ; Basten, M. A. ; Gallagher, D. A. ; Kreischer, K. E.
Northrop Grumman, (UNITED STATES)

16:40 Cherenkov-Like Radiation from Metallic Metamaterials нро
Park, G-S. ; Bera, Anirban ; Sattorov, M.A ; Kwon, O.J ; Barik, R.K ; Min, S.H
Seoul National University, (KOREA, REPUBLIC OF)

17:00 G-Band Power Module Development at Northrop Grumman нрр
Basten, M.A. ; Tucek, J.C. ; Gallagher, D.A. ; Kreischer, K.E.
Electronic Systems, Northrop Grumman Corporation, (UNITED STATES)

17:20 Surface Resistance of Copper from 400 to 850 GHz нрт
Kirley, M. P. ; Booske, J. H.
University of Wisconsin-Madison, (UNITED STATES)

17:40 Periodic-Surface-Lattice Cavities for MM-Wave Vacuum Electronic Sources нрф
MacLachlan, A.J. [1]; Konoplev, I.V. [2]; Robertson, C.W. [1]; Phipps, A.R. [1]; Phelps, A.D.R. [1]; Cross, A.W. [1]
[1]University of Strathclyde, (UNITED KINGDOM); [2]University of Oxford, (UNITED KINGDOM)

Session 10B: Satcom and Space TWT's
Chair: J.Puech (CNES)
Room: Friedrich List

16:20 **Keynote**: An 80 Watt Dual Ka/Q-Band Mini TWT нсм
Taylor, J ; Chan, D ; Donald, A ; True, Richard ; Vlahos, V ; Zubyk, A
L-3 Communications Electron Devices, (UNITED STATES)

16:40 High Power Millimeter Wave Helix TWT Programs at L-3 ETI нсо
Chong, C. ; Cordrey, D. ; Dawson, R. ; Forster, J. ; Layman, D. ; Ramay, M. ; Stolz, R. ; Washington, C.
L-3 Communications Electron Technologies, Inc., (UNITED STATES)

17:00 Second Harmonic Suppression in Helix Traveling-Wave Tubes нср
Gehrmann, E. [1]; Jacob, A.F. [1]; Birtel, P. [2]; Dürr, W. [2]
[1]Technische Universität Hamburg-Harburg, (GERMANY); [2]Thales Air Systems & Electron Devices GmbH, (GERMANY)

17:20 High-Efficiency, 200-W Ku-band Traveling-Wave Tubes for Satellite Communications Downlinks нст
Menninger, W. ; Eze, D. ; Hollister, R. ; Martin, R.
L-3 Electron Technologies, Inc., (UNITED STATES)

17:40 Hybrid Time-Domain Measurement and Pre-distortion of Broadband Complex Waveforms in a Ka-band TWT Amplifier HCϕ

Stantchev, G. [1]; Abe, D. [1]; Levush, B. [1]; Hanna, J. [2]; Chernin, D. [3]; Antonsen, T. [3]
[1]US Naval Research Laboratory, (UNITED STATES); [2]Beam-Wave Research, (UNITED STATES); [3]SAIC, (UNITED STATES)

18:00 End of afternoon Sessions

Poster Session I - Wednesday 22 May, 14:00-18:00

Beam Optics and other Modeling

1.1 Sheet Electron Beam Formation and Transport in the Uniform Magnetic Field нтм
Tang, X. F.; Sha, G. W.; Duan, Z. Y.; Wang, Z. L.; Wei, Y. Y.; Gong, Y. B.
University of Electronic Science and Technology of China, CHINA

1.2 Research on W-Band Sheet Beam Electron Optics System нто
Yang, X. D.; Wang, S. Z.; Ruan, C. J.; Zhao, D.; Zhang, C. Q.
Institute of Electronics, Chinese Academy of Sciences, CHINA

1.3 Electrostatic Focusing for a Field Emission Electron Source bк!
Jabotinski, V.[1]; Pasour, J.[2]; Nguyen, K. T.[1]; Petillo, J.[3]; Levush, B.[2]; Abe, D.[2]
[1]Beam-Wave Research, UNITED STATES; [2]U. S. Naval Research Laboratory, UNITED STATES; [3]Scientific Applications International Corporation, UNITED STATES

1.4 Space Charge Effect of Time-dependent Emission Current Excited from Ultrafast Laser нтр
Liu , Y. J[1]; Ang , L. K.[2]
[1]Nanyang Technological University, SINGAPORE; [2]Singapore U of Technology and Design, SINGAPORE

1.5 3D Large-Signal Capability in Beam Optics Analyzer нтт
Bui, T.; Read, Mike; Ives, Lawrence
Calabazas Creek Research, Inc., UNITED STATES

1.6 Multi-Source, Complex Beamline Model Development in MICHELLE eBEAM нту
Ovtchinnikov, S.G.[1]; Cooke, S.J.[2]; Mkrtchyan, M.M.[1]; Shtokhamer, R.[1]; Vlasov, A.N.[2]; Petillo, J.J.[1]; Levush, B.[2]
[1]SAIC, UNITED STATES; [2]Naval Research Laboratory, UNITED STATES

1.7 Efficient Algorithm for Numerical Integration of Motion Equations of Large Particles in Microwave Devices bк!
Kurayev, A.A.; Batura, M.P.; Rak, A.O.
Belarusian State University of Informatics and Radioelectronics, BELARUS

1.8 Sheet Beam Design Using EOS нул
Jin, X. L
University of Electronic Science and Technology of China, CHINA

1.9 The Research of Multi-Beam Gridded Electron Gun Simulation bк!
Tian, TH
Nanjing Sanle Electronic Information Industry Group,Instutute of Electronic Devices,Inc, CHINA

1.10 Comparison of PPM and Solenoidal Focusing in Multi-beam Electron Gun bк!
Sharma, RK[1]; Choyal, Y[2]; Nehra, A[1]
[1]CSIR-CEERI, Pilani, INDIA; [2]DAV Indore, INDIA

High Power Microwaves

1.11 Resonance Effects in the Quantum Exchange Interaction of Electrons and Positrons Beams нун
Mozgovoi, Yu. D.[1]; Kanavets, V. I.[2]; Khritkin, S. A.[1]
[1]National Research University Higher School of Economics, RUSSIAN FEDERATION; [2]Lomonosov Moscow State University, RUSSIAN FEDERATION

1.12 Microwave Radiation of Passing and Counter Electron Beams in Electrodynamics Systems нуп
Mozgovoi, Yu. D.[1]; Khritkin, S. A.[1]; Evdokimov, Yu. V.[2]
[1]National Research University Higher School of Economics, RUSSIAN FEDERATION; [2]Moscow Radiotechnical Institute of Russian Academy of Sciences, RUSSIAN FEDERATION

1.13 Features of the Interaction of Electron and Positron Beams in Smoothly Waveguide нус
Mozgovoi, Yu. D.; Khritkin, S. A.
National Research University Higher School of Economics, RUSSIAN FEDERATION

1.14 Self-oOnization of the Electron-Positron Medium нуу
Mozgovoi, Yu. D.[1]; Kanavets, V. I.[2]; Khritkin, S. A.[1]
[1]National Research University Higher School of Economics, RUSSIAN FEDERATION; [2]Lomonosov Moscow State University, RUSSIAN FEDERATION

1.15 Asymmetric Immersed Pole Undulators for High-Frequency Sources нфл
Jackson, R.; Read, M.; Ives, R. L.
Calabazas Creek Research, Inc., UNITED STATES

1.16 Power Estimation of Electromagnetic Coupling Effectiveness by a X-band Backward Wave Oscillator with Mode Conversion нфн
Min, S.H.[1]; Kwon, O.[1]; Sattorov, M.[1]; Baek, I.K.[1]; Kim, S.T.[1]; Bera, A.[1]; Barik, R.K.[1]; Lee, W.S.[2]; So, J.H.[2]; Park, G.S.[1]
[1]Seoul National University, KOREA, REPUBLIC OF; [2]Agency for Defense Development, KOREA, REPUBLIC OF

1.17 The Cutoff Magnetron with the Reverse Magnetic System Design and the Device Development Prospects нфп
Akimov, P. I.[1]; Kalashnikov, D.A.[1]; Melnichuk, G.V.[1]; Senatov, O.I.[1]; Sigalaev, V.N.[1]; Freydovich, I.A.[1]; Chudin, V.G.[1]; Sergeev, K.L.[2]
[1]FSUE R&PC Toriy, RUSSIAN FEDERATION; [2]Joint stock company Spetsmagnit, RUSSIAN FEDERATION

1.18 On the Slow-Wave Structure Operation in the Vicinity of the Cutoff Frequency and Means to Enhance the Cutoff Magnetron Life Characteristics нфс
Akimov, P.I.; Kalashnikov, D.A.; Melnichuk, G.V.; Senatov, O.I.; Sigalaev, V.N.
FSUE R&PC, RUSSIAN FEDERATION

1.19 Recuperation in Superpower Cherenkov Oscillator with Inhomogeneous Magnetic Field bк!
Kurayev, A.A.; Sinitsyn, A.K.; Rak, A.O.
Belarusian State University of Informatics and Radioelectronics, BELARUS

1.20 FSUE "R&P Corp. "Toriy" Powerful Vacuum RF Tubes. нфу
Melnichuk, G.V.; Akimov, P. I.; Komarov, D. A.; Korotkov, A. F.; Konnov, A. V.; Morev, S. P.; Nikitin, A. P.; Prokofiev, B. V.; Saharov, V. P.; Sigalaev, V. N.; Smirnov, V. A.; Freidovich, I. A.; Yakuschkin, E. P.
FSUE R&PC Toriy, RUSSIAN FEDERATION

1.21 Study on High Power Ka-band Rectangular Double-Grating Sheet Beam Device олл
Zhang, Y. B. [1]; Cao, Z. [2]; Wang, Z. L. [1]; Wei, Y. Y [1]; Gong, H. R. [1]; Wang, S. M. [1]; Gong, Y. B. [1]
[1]University of Electronic Science and Technology of China, (CHINA); [2]China Electronics Standardization Institute, (CHINA)

Space and Satcom TWT's

1.22 Asymmetric Cross-Field Multi-Stage Depressed Collector with Half Cylinder Electrodes for Space Applications bк!
Mercy Latha, A; Srivastava, V; Sharma, RK; Ghosh, SK
CSIR-CEERI, INDIA

1.23 Compact and Light-weight Multi-stage Depressed Collector for Space Traveling wave Tubes bк!
Mercy Latha, A; Kaur, Jaspreet; Vishant, Gahlaut; Srivastava, V; Sharma, RK; Ghosh, SK
CSIR-CEERI, INDIA

1.24 Effects of Helix Support Geometry on Heat Dissipation from it in a Traveling-Wave Tube bк!
Gahlaut, V.[1]; Latha, A Mercy[1]; Alvi, PA[2]; Sharma, RK[1]; Srivastava, V.[1]; Ghosh, SK[1]
[1]Central Electronic Engineering Research Institute, INDIA; [2]Banasthali University, INDIA

1.25 Development of K-band 50% efficiency 30W Helix TWT bк!
Qu, Bo
Beijing Vacuum Electronics Research Institute, CHINA

1.26 Simulation and Experiment of K-band Space TWT Electron Gun bк!
Wei, Y. X.; Huang, M. G.; Liu, S. Q.; Li, X. X.; Hao, B. L.; Liu, P. K.
Institute of Electronics, Chinese Academy of Sciences, CHINA

1.27 Design and Experiment of a V- Band Helix TWT олн
Li, L.; Jinjun, F.; Bo, Q.; Yanhua, S.
Beijing Vacuum Electronics Research Institute, CHINA

1.28 Development of Ku-Band 150W Space TWT олп
Liang, Xiao feng
Beijing Vacuum Electronics Research Institute, CHINA

Thermionic Cathodes

1.29 Fabrication and Emission Property of LaC2-Mo Cathode олс
Wang, Jinshu
Beijing University of Technology, CHINA

1.30 Plasma spraying metal-porous Cathodes for high-power Microwave Devices олу
Smirnov, V.A.[1]; Akimov, P.I.[1]; Melnichuk, G.V.[1]; Chudin, V.G.[1]; Nikitin, A.P.[1]; Freydovich, I.A.[1]; Potapov, Y.A.[1]; Sudakov, Y.S.[1]; Bogoslovskaya, A.B.[2]
[1]FSUE R&PC Toriy, RUSSIAN FEDERATION; [2]Peoples Friendship University of Russia, RUSSIAN FEDERATION

1.31 Wetting and Micro-Structural Variations of Nano-Composite Brazing Fillers for Dispenser Cathode Manufacturing омл
Busbaher, D.[1]; Liu, W.[2]; Sekulic, D.[2]
[1]Semicon Associates, UNITED STATES; [2]University of Kentucky, UNITED STATES

1.32 Current-Noise Characteristics as an Instrument for Quality Estimation of hot Cathodes омн
Smirnov , V.A.[1]; Chudin , V.G.[1]; Vorobyev, M.D.[2]; Akimov, P.I.[1]; Chirkov, M.N.[2]; Yudaev, D.N.[2]
[1]FSUE R&PC Toriy, RUSSIAN FEDERATION; [2]Moscow Power Engineering Institute, RUSSIAN FEDERATION

1.33 Composition and Work Function Relationship in Os-Ru-W Ternary Alloys ОМП
Swartzentruber, P.[1]; Balk, T.J.[1]; Roberts, S.[2]; Effgen, M.[2]
[1]University of Kentucky, UNITED STATES; [2]Semicon Associates, UNITED STATES

1.34 Cathode Manufacturing Relational Data Collection and Process Control System ОМС
Wolverton-Spencer, L.; Effgen, M
Semicon Associates, UNITED STATES

1.35 Impregnation of High Purity Ba-Ca Aluminate on a Porous Tungsten Matrix Obtained from W-Cu Composite for TWT Thermionic Cathodes ОМУ
Motta, C.[1]; Sene, F.[2]; Mancini, V.[2]; Santos, V.[1]
[1]University of Sao Paulo, BRAZIL; [2]Nuclear and Energy Research Institute, BRAZIL

1.36 Thermionic Emission of Impregnated Dispenser Cathodes at Low Temperature ОНЛ
Zheng, Q.[1]; Yin, S.Y.[1]; Peng, Z.[2]; Wang, Y.[1]; Wang, X. X.[1]; Li, Y.[1]
[1]Chinese Academy of Sciences, CHINA; [2]University of Chinese Academy of Sciences, CHINA

1.37 Work Function Measurements on Coated and Uncoated Tungsten Dispenser Cathodes Using a Kelvin Probe ОНН
Tarter, J[1]; Swartzentruber, P[2]; Balk, J[2]
[1]Semicon Associates, UNITED STATES; [2]University of Kentucky, UNITED STATES

1.38 The Effects of Mass Load on Cathode Etching and Hydrogen Consumption 5dzNNAyЭ ŭKŜ lY`LJNŜЭyl·ŭʌ2y` tN2ÔŜăă ОНП
Connor, Derrick; Faulkner, Scott
Semicon Associates, UNITED STATES

1.39 The Modeling and Mesh of a Simple Cathode-Heater Assembly Structure ОНС
Xin-wei, LI
Institute of Electronics, CHINA

1.40 Resaerch about Cathode and heater Assembly of Gyrotron bK!
Zhang, ZY
Nanjing Sanle Electronic Information Industry Group,Instutute of Electronic Devices,Inc, CHINA

1.41 Emission Performance of Cathode coated with W+BaO/SrO/Sc2O3 Film prepared by PLD bK!
Peng, Zhen[1]; Yin, Shengyi[2]; Zheng, Qiang[2]; Wang, Xinxin[2]; Wang, Yu[2]; Li, Yang[2]
[1] Institute of Electronics,University of Chinese Academy of Sciences, CHINA; [2]Key Laboratory of High Power Microwave Sources and Technologies, Institute of Electronics,Chinese Ac, CHINA

THz

1.42 Three-Dimensional Particle-in-Cell Simulations of Terahertz Smith-Purcell Radiation Generated from Tapered Grating bK!
Liu , W.
Institute of Electronics, Chinese Academy of Sciences, CHINA

1.43 Nonrelativistic Electron Beam Control and Its Application in Terahertz Radiation Generation ОНУ
Gong, H.; Xu, J; Wang, Z; Tang, T; Gong, Y
University of Electronic Science and Technology of China, CHINA

1.44 Development on W-Band Coupled-Cavity Device bк!
Sattorov, M. A.[1]; Tanwar, A. K.[2]; Bera, A.[2]; Barik, R. K.[2]; Min, S. H.[2]; Kwon, O.[2]; Park, G. S.[2]
[1]Seoun National University, KOREA, REPUBLIC OF; [2]Seoul National University, KOREA, REPUBLIC OF

1.45 Photonic Crystals Assisted Slow Wave Structure for THz Vacuum Devices оол
Letizia, R; Paoloni, C; Mineo, M; Pinto, D
Lancaster University, UNITED KINGDOM

1.46 Structure Design and Simulation of Extended Interaction Oscillator оон
Zhong, Y.
Institute of Electronics, Chinese Academy of Sciences, CHINA

1.47 Cylindrical Equivalent Model for Fast Gain Calculation of Sub-terahertz Sheet Beam TWT and Beam Transport Analysis through Twisted SWS bк!
Panda, P. C.[1]; Srivastava, Vishnu[1]; Vohra, Anil[2]
[1]CSIR-Central Electronics Engineering Research Institute, INDIA; [2]Kurukshetra University, Kurukshetra Haryana, INDIA

1.48 Investigation of 0.14THz Pill-box Window for Folded Waveguide TWT ооп
Chen, Z.; Wang, Y.J.
Institute of Electronic Engineering, China Academy of Engineering Physics, CHINA

1.49 Breakthrough UV-LIGA Microfabrication of Sub-mm and THz Circuits bк!
Joye, C.; Cook, A.; Calame, J.; Abe, D.; Levush, B.
U.S. Naval Research Laboratory, UNITED STATES

1.50 Improvement of Cold Parameters of the double Corrugated Waveguide by Geometrical Shaping of the Corrugations ооc
Mineo, M.; Paoloni, C.
Lancaster University, UNITED KINGDOM

1.51 Amplifiers of Millimetric and Submillimetric Wave Bands on Orbotron-Klystrons with Sheet Beams bк!
Aksenchyk, A.V.; Yeryomka, V.D.; Kirinovich, I.F.; Kyrayev, A.A.
Belarusian State University of Informatics and Radioelectronics, BELARUS

1.52 Optimized Variants of 0.18 -THz Orbictron-Amplifier bк!
Yeryomka, V.[1]; Kurayev, A.[2]; Sinitsyn, A.[2]
[1]Usikov IRE NASU, UKRAINE; [2]BSUIR, BELARUS

1.53 A 0.65-THz BWO Based on Slotted Single-Grating Rectangular Waveguide ооу
Xie, W.-Q.[1]; Wang, Z.-C.[2]; Luo, J.-L.[2]; Liu, Q.-L.[2]
[1]Chinese Academy of Science, CHINA; [2]Institute of Electronics, Chinese Academy of Sciences, CHINA

1.54 Modeling and Characterization of a Slow-Wave Structure for a Sheet-Beam Sub-THz TWT Amplifier опл
Ryskin, N.M.[1]; Rozhnev, A.G.[1]; Karetnikova, T.A.[1]; Torgashov, G.V.[2]; Sinitsyn, N.I.[2]; Shalaev, P.D.[3]; Burtzev, A.A.[4]
[1]Saratov State University, RUSSIAN FEDERATION; [2]Saratov Branch, Institute of Radio Engineering and Electronics, RAS, RUSSIAN FEDERATION; [3]"Almaz" R&D Co., Saratov, RUSSIAN FEDERATION; [4]"Almaz" R&D Co., Saratov, RUSSIAN FEDERATION

1.55 Simulation of High Frequency Structure for Extended Interaction Oscillator bк!
Zhao, Chao
Institute of Electronics, Chinese Academy of Sciences, CHINA

1.56 Time-Domain Calculation Of The Interaction Of THz Backwave Oscillator bк!
Liu, T.[1]; Wang, Z.C.[2]; Liu, P.K.[2]
[1]China University of Petroleum, CHINA; [2]Chinese Academy of Sciences, CHINA

W Band and other TWT's

1.57 Double-Grating Rectangular Waveguide for W-Band Traveling-Wave Tube bк!
Liu, Q.L.; Wang, Z.C.; Liu, P.K.; Xie, W.Q.
Institute of Electronics, Chinese Academy of Sciences, CHINA

1.58 W-Band Rectangular Ring-Bar Structure with Straight-Edge Connections опн
Chua, C.[1]; Aditya, S.[2]; Lau, Y. Y.[3]
*[1]Institute of High Performance Computing, A*STAR (Agency for Science, Technology and Research), SINGAPORE; [2]School of Electrical and Electronic Engineering, Nanyang Technological University, SINGAPORE; [3]Department of Nuclear Engineering and Radiological Sciences, University of Michigan, UNITED STATES*

1.59 Development of a Wideband W-band Serpentine Waveguide TWT опп
Cook, A. M.[1]; Joye, C. D.[1]; Calame, J. P.[1]; Nguyen, K. T.[2]; Chernin, D. P.[3]; Vlasov, A.[1]; Abe, D. K.[1]; Levush, B.[1]
[1]U.S. Naval Research Laboratory, UNITED STATES; [2]Beam-Wave Research, Inc., UNITED STATES; [3]SAIC, UNITED STATES

1.60 An Evaluation of Heat Dissipation Capability of Slow-wave Structure by Micro Fiber Bragg Grating Sensor Array опс
Wei, P.[1]; Zhu, L.[1]; Zhang, J.[1]; Wang, X.F.[1]; Zhao, X.Q.[1]; Zhou, M.G.[2]; Yang, M.H.[2]; Sun, X.H[1]
[1]Southeast University, CHINA; [2]2. Beijing Vacuum Electronic Research Institute, CHINA

1.61 Reducing the Gain Change in Broadband TWTs bк!
Danilov, A.B.; Il'ina, E.M.; Rafalovich, A.D.; Shalaev, P.D.
The Open Joint-Stock Company NPP "Almaz", RUSSIAN FEDERATION

1.62 Coherence Resonance in TWT and BWO Autogenerators bк!
Sadovnikov, S; Dmitriev, Boris; Zharkov, Yuri; Skorokhodov, Valentin
Saratov State University, RUSSIAN FEDERATION

1.63 Simulations of a Ka-Band 7-Beam coupled-cavity Traveling-Wave Tube when the operating Frequency is near one of the cutoff Frequencies. опу
Komarov, D. A.; Darmaev, A. N.; Makeev, A. E.; Morev, S.P.
FSUE R&PC Toriy, RUSSIAN FEDERATION

Poster Session II - Thursday 23 May 2013, 08:30-12:30

Cold Cathodes

2.1 Dielectric Enhancement of Electric Fields for a Noble Cold Cathode onϕ
Chung, M.[1]; Chun, J.[1]; Mayer, A.[2]; Miskovsky, N.[3]; Cutler, P.[3]
[1]University of Ulsan, KOREA, REPUBLIC OF; [2]University of Namur, BELGIUM; [3]Pennsylvania State University, UNITED STATES

2.2 Improved Field Emission Algorithms for Modeling Field Emission Devices Using a Conformal Finite-Difference Time-Domain Particle-In-Cell Method opM
Lin, M. C.; Loverich, J.; Stoltz, P. H.; Nieter, C.
Tech-X, UNITED STATES

2.3 Improving the Field Emission Property of Zinc Oxide by Directly Growing on Graphene Layer opo
Zhao, N.; Shi, C.Y.; Qu, K.; Li, C.; Lei, W.; Zhang, X.B.
School of Electronic Science and Engineering, Southeast University, CHINA

2.4 cancelled

2.5 High Current Density Edge Electron Emission from Graphene Paper bK!
Liu, J; Li, N; Zeng, B
University of Electronic Science and Technology of China, CHINA

2.6 Novel Field Emission from Graphene Sheets supported by CNTs Arrays opp
Qu, K.[1]; Zhang, X. B.[2]; Cole, M. T.[3]; Li, C.[1]; Zhao, N.[2]; Shi, C. Y.[2]; Ding, S. Y.[2]; Ying, K.[4]; Lei, W.[2]; Wang, B. P.[2]; Milne, W. I.[4]
[1]Display Research Centre, School of Electronic Science and Engineering, Southeast University, Nanji, CHINA; [2]Display Research Centre, School of Electronic Science and Engineering, Southeast University, Nanjin, CHINA; [3]Department of Engineering, Electrical Engineering Division, University of Cambridge, CB3 0FA, Cambri, UNITED KINGDOM; [4]Department of Engineering, Electrical Engineering Division, University of Cambridge, 9 JJ Thomson Av, UNITED KINGDOM

2.7 Pulse Field Emission Characteristics of the Vertical Few-layer Graphene Cold Cathode bK!
Zhang, Y.; Deng, D.L.; Deng, S.Z.; Chen, J.; Xu, N.S.
Sun Yat-sen university, CHINA

2.8 The Improvement of Field Emission Characteristic after high Temperature Sealing Process of Carbon Nano-Tube X-Ray Tube opT
Jeong, J. W.; Kim, J. W.; Kang, J. T.; Choi, S. Y.; Choi, J. Y.; Ahn, S. J.; Song, Y. H.
ETRI, KOREA, REPUBLIC OF

2.9 Implementation field-emitting Planar Matrices in Electron-Optic Systems of powerful RF Devices opϕ
Darmaev, A. N.[1]; Aban'shin, N. P.[2]; Gorfinkel, B. I.[2]; Komarov, D. A.[1]; Makeev, A. E.[1]; Yakunin, A. N.[3]
[1]FSUE R&PC Toriy, RUSSIAN FEDERATION; [2]Volga-Svet Co. Ltd, RUSSIAN FEDERATION; [3]Institute of Precise Mechanics and Control, RAS, RUSSIAN FEDERATION

2.10 Highly Adhesive Carbon Nanotube Field Emitters with a Carbide Filler ocM
Kim, J.-W.; Jeong, J.-W.; Kang, J.-T.; Choi, S.; Choi, J.; Ahn, S.; Song, Y.-H.
Electronics and Telecommunications Research Institute, REPUBLIC OF KOREA

2.11 Direct Synthesis of Carbon Nanotube on Stainless Steel Cathode oco
Zhang, Y.; Deng, S.Z.; Chen, J.; Xu, N.S.
Sun Yat-sen university, CHINA

2.12 Pressed Metal-Alloy Palladium-Barium Cathode. ocp
Li, I.P.[1]; Polivnikova, O.V.[2]
[1]OJSC "Pluton", RUSSIAN FEDERATION; [2]FSUE "Istok", RUSSIAN FEDERATION

2.13 The Field Emission Properties of Diamond-like Carbon Film Prepared by Filtered Cathodic Vacuum Arc ocт
Wang, C.; Zhao, Z.W.; Chen, Y.Q.
Southeast University, CHINA

2.14 Design of Carbon Nanotube Cathode Electron Gun for Travelling Wave Tube Applications bк!
Li, X.; Cai, S.; Bai, G.; Li, H.; Ding, M.; Feng, J.; Liao, F.
Beijing Vacuum Electronics Research Institute, CHINA

2.15 Enhanced Adsorption between Defective Carbon Nanotubes and Metal Chlorides based on First-Principles Calculations bк!
Liu , Weihui; Xu, Shunfu
Shandong university of science and technology, CHINA

2.16 Study of Field Screening Effect for Cone-type Field Emitter Arrays bк!
Li, Nannan[1]; Zeng, Baoqing[1]; Liu, Jianlong[1]; Zhang, Hai[1]; Guo, Jing[1]; Xiang, Wei[2]; Tan, Xiaohua[2]; Jin, Dazhi[2]; Qian, Muyang[2]; Zhao, Xinghai[2]
[1]University of Electronics Science and Technology of China, CHINA; [2]Chinese Academy of Engineering Physics, CHINA

2.17 Simulation and Design of Surface-Conduction Field Emission Display ocф
Li, Haiyan; Zhu, Zhuoya; Lei, Wei; Zhang, Xiaobing; Sun, Yajun; Li, Shuang
Southeast University, CHINA

Klystrons and ISM

2.18 A Kicker Driver for the bŜÈű DŜyŜ·űƛƨƴ [ƛƎKű {ƨŎŜ отм
Kempkes, Michael; Arntz, Floyd; Gaudreau, Marcel
Diversified Technologies, Inc., UNITED STATES

2.19 The Research and Development of S-band High Power Multi-beam Klystrons bк!
Shen, B.; Ding, Y.; Zhang, Z.; Gu, H.; Gao, D.
Institute of Electronics, Chinese Academy of Sciences, CHINA

2.20 A Technique for Resonant Frequency Measurement of Brazed Intermediate Cavities of Ku-Band Multiple-Beam Klystron bк!
Bansiwal, Ashok
Microwave Tube Research and Development Centre, INDIA

2.21 Design and Particle-in-Cell Simulation of W-band CW Extended Interaction Klystron bк!
Zhong, Y.
Institute of Electronics, Chinese Academy of Sciences, CHINA

2.22 A Way to Increase the Efficiency of Klystrons ото
Guzilov, I.A.
JSC "Basic technology of vacuum devices", RUSSIAN FEDERATION

2.23 Simulation Study of a C-Band High Power Klystron отс
Zhang, Rui; Wang, Yong
IECAS, CHINA

2.24 Progress of Developing the 10MW L-Band Multi-Beam Klystron оту
Wang, Y.
Institute of Electronics, Chinese Academy of Sciences, CHINA

2.25 Progress of an S-band High Average Power Broadband Multi-beam Klystron bк!
Gao, Dongping; Ding, Yaogen; Zhang, Zhaochuan; Shen, Bin; Zhang, Zhiqiang; Cao, Jin; Gu, Honghong; Wang, Caiying; Wang, Feng
Institute of Electronics,Chinese Academy of Sciences, CHINA

2.26 Some Physical Phenomena in the Collector Region of Multi-Beam Klystron оул
Ding, Y.; Shen, B.; Ding, H.; Gu, H.
Institute of Electronics, Chinese Academy of Sciences, CHINA

Microwave Circuit Design

2.27 A Novel Angular Log-Periodic Micro-Strip Meander-Line Slow Wave Structure for Low-Voltage and Wideband Traveling Wave Tube оун
Wang, S. M.[1]; Cao, Z.[2]; Hou, Y.[1]; Zhao, G. Q.[1]; Wei, Y. Y.[1]; Duan, Z. Y.[1]; Wang, Z. L.[1]; Gong, Y. B.[1]
[1]National Key Laboratory of Science and Technology on Vacuum Electronics, CHINA; [2]China Electronics Standardization Institute, CHINA

2.28 Investigation of a Novel Folded Waveguide Slow Wave Structure for Traveling Wave Tube оуп
Hou, Y.; Xu, J.; Wang, S. M.; Zhao, G. Q.; Wei, Y. Y.; Duan, Z. Y.; Gong, Y. B.
National Key Laboratory of Science and Technology on Vacuum Electronics, CHINA

2.29 Modeling the Finite Thickness of Helix Slow-Wave Structures bк!
Mahmoudi, Ali
University of Tehran, IRAN, ISLAMIC REPUBLIC OF

2.30 Novel SWS Designs for High Power Ka-band TWTs оус
Pchelnikov, Y.N.[1]; Vlasov, A.N.[2]; Chernin, D.[3]
[1]Consultant, UNITED STATES; [2]Naval Research Laboratory, UNITED STATES; [3]SAIC, UNITED STATES

2.31 Two cavity W-Band Sheet Beam Extended Interaction Klystron Simulation оуу
Bhanu Naidu, V[1]; S K , Datta[2]; kumar, Lalit[2]
[1]MTRDC, INDIA; [2]MTRDC, DRDO, INDIA

2.32 A Modified Slotted Helix Slow-Wave for High-Power Millimeter-Wave TWT офл
Liu, L.W; Wei, Y. Y; Yin, H. R; Xu, J; Zhao, G. Q; Huang, M. Z; Duan, Z. Y; Gong, Y. B
University of Electronic Science and Technology of China, CHINA

2.33 Scaled Design and Test of a Coupler for Micro-Reentrant Square-Cavities for Millimeter Wave Klystrons офн
Paoloni, C.[1]; Mineo, M[2]; Yin, H[3]; Zhang, L[3]; He, W[3]; Robertson, C.W.[3]; Cross, A.W.[3]; Ronald, K[3]; Phelps, A.D.R[3]
[1]Engineering Department, UNITED KINGDOM; [2]Lancaster University, UNITED KINGDOM; [3]University of Strathclyde, UNITED KINGDOM

2.34 Design of multi-gap extended output cavity for W band Sheet beam EIK офп
Chen, Shuyuan; Ruan, Cunjun; Zhang, Changqing; Wang, Yong
Institute of Electronics,Chinese Academy of Sciences, CHINA

2.35 Design and Coldtest of High Frequency Interaction Structure for X-Band Sheet Beam Klystron офс
Zhao, D.; Ruan, C.; Liang, Y.; Zhang, C.; Wang, S.; Yang, X.
Institute of Electronics, Chinese Academy of Sciences, CHINA

2.36 Study the Effect of Positive Dispersion in Input Circuit of Broadband Helix Traveling Wave Tubes офу
Jin, X. L
University of Electronic Science and Technology of China, CHINA

2.37 Negative Dispersion Study of some typical Slow Wave Structures in Helix bк!
Jin, X. L
University of Electronic Science and Technology of China, CHINA

2.38 Time-Domain PIC-Modeling of Suppression of Self-Modulation in the Multiple Cavity Klystron Oscillator with Delayed Feedback плл
Emelyanov, V.V.; Ryskin, N.M.
Saratov State University, RUSSIAN FEDERATION

2.39 S-Shaped Microstrip Meander-Line Slow-Wave Structure for W-Band Traveling-Wave Tube плн
Bai, N.
Southeast University, CHINA

2.40 S Parameters of a Single coupler Extracted from the Whole SWS System bк!
Zhu, Zhaojun; Jia, Baofu; Wei, Chaolei; Yu, Bin
University of Electronic Science and Technology of China, CHINA

2.41 Analysis of an Inhomogenously Ridge-loaded Helix SWS Used in MPM bк!
Zhu, Zhaojun; Jia, Baofu; Wei, Chaolei; Yu, Bin
University of Electronic Science and Technology of China, CHINA

RF Modeling

2.42 Modeling a Gyrotron Cavity Using a 3D CFDTD PIC Method плп
Lin, M. C.; Smithe, D. N.
Tech-X, UNITED STATES

2.43 Equivalent Capacitance of a Sheet Electron Beam плс
Pchelnikov, Yu. N.[1]; Yelizarov, A. A.[2]; Pchelnikov, A. G.[3]
[1]retired, UNITED STATES; [2]MIEM, RUSSIAN FEDERATION; [3]Moscow State Expertise, RUSSIAN FEDERATION

2.44 Electron Waves in the Passbands and Stopbands of Periodic Slow-Wave Systems плу
Solntsev, V.A.
Moscow Institute of Electronics and Mathematics National Research University, RUSSIAN FEDERATION

2.45 Analytical Solutions of the Dispersion and Coupling Impedance for the Double Slot Coupled Cavity Slow Wave Structure in TWT пмл
He, F.M.[1]; Luo, Jirun[1]; Zhu, Min[2]; Guo, Wei[3]
[1]Institute of Electronics, Chinese Academy of Sciences, CHINA; [2] Institute of Electronics, Chinese Academy of Sciences, CHINA; [3]Institute of Electronics,Chinese Academy of Sciences, CHINA

2.46 SWS-based Methods for Non-Destructive Monitoring Absorbing Coatings пмн
Pchelnikov, Yu.[1]; Smirnov, A.[2]
[1]Retired Consultant, UNITED STATES; [2]RadiaBeam Technologies, UNITED STATES

2.47 Optimization of a Sheet Electron Beam Interaction with a Slow Wave пмп
Pchelnikov, Yu.[1]; Yelizarov, A.[2]
[1]Retirerd, Consultant, UNITED STATES; [2]MIEM, RUSSIAN FEDERATION

2.48 Why Aharonov-Bohm Effect Does Not Violate Locality Principle bк!
Gritsunov, A.
KNEU, UKRAINE

2.49 A 3D Simulation Code for Folded Waveguide Traveling Wave Tubes пмс
Jin, X. L
University of Electronic Science and Technology of China, CHINA

2.50 Three-Dimensional FE Modeling of Slow-Wave Structure for Traveling-Wave Tube without Matching Meshes пму
Jin, X. L
University of Electronic Science and Technology of China, CHINA

2.51 Development and Validation of a Time-Dependent Large-Signal Simulation Code for Gyroklystron Amplifier пнм
Zhu, X. F
University of Electronic Science and Technology of China, CHINA

2.52 Simulation Computation Method for the Gap Impedance of Multi-gap Output Cavity with Double Coupling Apertures bк!
Ge, M[1]; Wang, Y[2]
[1] Key laboratory of High Power Microwave Sources and Technologies, Institute of Electronics, Chinese, CHINA; [2]Key laboratory of High Power Microwave Sources and Technologies, Institute of Electronics, Chinese A, CHINA

2.53 Features of Long-term Interaction of Electron Beam with Electromagnetic Wave Involving Emission Modulation bк!
Krasnova, G.; Trubetsckov, D.
Saratov State University, RUSSIAN FEDERATION

2.54 BWIS_KLY: A 1D Large-Signal Beam Wave Interaction Simulator for klystron пно
Jin, X. L
University of Electronic Science and Technology of China, CHINA

2.55 Operation of FDM Method in TE Modes Computation of Rectangular/Ridge Waveguide bк!
Deng, DJC; Deng, jiacheng
Nanjing Sanle Electronic Information Industry Group,Instutute of Electronic Devices,Inc, CHINA

Poster Session III - Thursday 23 May 2013, 14:00-18:00

Gyrodevices

3.1 Study of TM01 to TE11 Coaxial Transmission Mode Conversion bк!
Zhu, Xian-neng[1]; Niu, Xin-jian[1]; Liu, Ying-hui[1]; Yu, Xin-hua[2]
[1]University of Electronic Science and Technology of China, CHINA; [2]Guilin University of Electronic Technology, CHINA

3.2 A TE62 Mode Generator in W-Band Using Waveguide Transformation bк!
Wen-yuan Shen , S.[1]; Hu Wang , W.[1]; Zhi-hui Geng , G.[2]; Pu-Kun Liu , L.[2]
[1]University of Chinese Academy of Sciences, CHINA; [2]Institute of Electronics, Chinese Academy of Sciences, CHINA

3.3 Recent Experimental Results of Magnetron Injection Gun (MIG) for 42 GHz 200 kW Gyrotron пнр
Khatun, Hasina; Singh, Udaybir
CSIR-Central Electronics Engineering Research Institute (CEERI), INDIA

3.4 Design of Triple- Frequency Gyrotron пнт
Singh, Udaybir
CEERI, INDIA

3.5 Analysis of Parasitic Mode Oscillations for 95 GHz Gyrotron Beam Tunnel пнф
Kumar, Nitin
CEERI, INDIA

3.6 Simulations and Experiments of a five Waveguide Output Structure for Gyro-devices Applications пом
Luo, J[1]; Cui, J[2]; Zhu, M[1]; Guo, W[1]
[1]Institute of Electronics, Chinese Academy of Sciences, CHINA; [2]School of Information science and Engineering, Central South University, CHINA

3.7 Simulation of lossy Interaction Structure for Ka-band Gyro-TWT поо
Alaria, Mukesh
CEERI, INDIA

3.8 Design of Interaction Structure for 2THz Gyrotron Operating at Second Harmonic пор
Muppalla, Prudhvi
CEERI, INDIA

3.9 Design and Experiment of a U-Band TE01 Gyro-TWT bк!
Xu, Y.; Xu, Y.
University of Electronic Science and Technology of China, CHINA

3.10 Experiment Study of A W-band Frequency Tunable Gyrotron Oscillator with an Over-length Cylindrical Cavity bк!
Du, C.[1]; Chang, T.[1]; Liu, P.[2]
[1]National Tsing Hua University, CHINA; [2]Institute of Electronics, Chinese Academy of Sciences, CHINA

3.11 Research of Low Frequency Oscillations of ka Band TE01 Gyro-TWT bк!
Youlei pu, P; Luo Yong, L; Jiang Wei , J; Liu Guo, l
University of Electronic Science and Technology of China, CHINA

3.12 Development of a Wide-Band Window in HE1,1 Guide for Gyrotrons пот
Read, M.[1]; Bui, T.[1]; Marsden, D.[1]; Ives, R.L.[1]; Stockwell, B.[2]; Neilson, J.[3]
[1]Calabazas Creek Research Inc., UNITED STATES; [2]Communications and Power Industries, LLC, UNITED STATES; [3]Lexam Research, UNITED STATES

3.13 Design of a G-Band Harmonic Multiplying Gyrotron Traveling-Wave Amplifier with a Mode Selective Circuit поф
Yeh, Yi Sheng; Lai, C. H.; Chen, C. H.; Lin, T. Y.
Southern Taiwan University of Science and Technology, TAIWAN

3.14 Numerical Simulation of a 1.37 THz Gyro-Multiplier ппм
Constable, D.A.[1]; Bandurkin, I.V.[2]; He, W.[1]; Cross, A.W.[1]; Savilov, A.V.[2]; Phelps, A.D.R.[1]; Bratman, V.L.[2]; Ronald, K.[1]
[1]University of Strathclyde, UNITED KINGDOM; [2]Institute of Applied Physics, RUSSIAN FEDERATION

3.15 Experimental Study of High- Efficiency and high-gain Ka-Band Gyrotron-Traveling Wave-Tube bк!
Wang, EFeng
National Key Laboratory of Science and Technology on Vacuum ElectronicsBeijing Vacuum Electronics Re, CHINA

3.16 Systhesis the Quasi-Optical Launcher using the Improved Equivalent Qurrent Method bк!
Wu, W.; Li, Hao; Fu, Hua; Xu, Jianhua; Li, Tianming
School of Physical Electronics, University of Electronic Science and Technology of China, CHINA

3.17 Quasi-optical Mode Converter for a Second Harmonic 0.4THz, 100kW Gyrotron Oscillator bк!
Kim, S.G; Choi, Eunmi
UNIST, KOREA, REPUBLIC OF

3.18 Design Study of MIG for Dual-band Gyrotron ппо
Lee, I.G.; Kim, S.G.; Choi, E.M.
Ulsan National Institute of Science and Technology (UNIST), KOREA, REPUBLIC OF

3.19 Numerical Simulation of a Dimpled-wall Quasi-optical Launcher for High Power Gyrotron Oscillators bк!
Wang, Hu[1]; Geng, Zhi-hui[2]; Shen, Wen-yuan[3]; Liu, Pu-kun[2]
[1]University of Chinese Academy of Sciences, CHINA; [2]Institute of Electronics,Chinese Academy of Sciences, CHINA; [3]Institute of Electronics,Chinese Academy of Sciences;University of Chinese Academy of Sciences, CHINA

3.20 Design of a 0.1THz Gyrotron with Complex Cavity bк!
Liu, L
University of Electronic Science and Technology of China, CHIN

3.21 Measurement Study of Complex Cavity Frequency of W- Band Gyrotrons bк!
Wang, EFeng
National Key Laboratory of Science and Technology on Vacuum ElectronicsBeijing Vacuum Electronics Re, CHINA

3.22 Numerical Simulation of Ka-Band Fundamental Complex Cavity Gyrotron bк!
Liu, Chun-gong; Niu, Xin-jian; Liu, Ying-hui
University of Electronic Science and Technology of China, CHINA

3.23 Simulation of the Structure for W-Band Gyroklystron Amplifiers ппр
Li, Teng-bao; Liu, Ying-hui; Niu , Xin-jian
University of Electronic Science and Technology of China, CHINA

3.24 Design of Adapted Phase Correcting Mirrors for Gyrotrons ппт
Liu, J.[1]; Jin, J.[2]; Thumm, M.[2]; Zhao, Q.[1]; Li, H.[1]
[1]Institute of Physical Electronics, University of Electronic Science and Technology of China, CHINA; [2]Institute for Pulsed Power and Microwave Technology, Karlsruhe Institute of Technology, GERMANY

3.25 Thermal Analysis of Output Window of Ka-band Gyro-TWT bк!
Zeng, Xu; Wang, Efeng; Liu, Bentian; Li, Zhiliang; Feng, Jinjun; Yan, Tiechang
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3.26 The Design and Particle Simulation of a Q-band Gyro-TWT Based on Periodic Dielectric Loaded Waveguide bк!
Tang, Yong; Luo, Yong
UESTC, CHINA

3.27 A Steady-state Multimode Analysis of Mode Competition in Gyro-TWT ппф
Wang, Q.S.; Luo, J.R.; Peng, S.Y.; Jiao, C.Q.
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3.28 Study on high-frequency Structure for a Complex Cavity Gyrotron with gradual Transition bк!
Liu, Fei
University of Electronic Science and Technology of China, CHINA

3.29 Design of the Magnetron Injection Gun for W-band Gyrotron Oscillator прм
Geng, G.
Institute of Electronics, Chinese Academy of Sciences, CHINA

3.30 Single-Anode Magnetron Injection Gun Design for 140GHz Gyrotron bк!
Li, D.; Niu, X.J; Liu, Y.H
University of Electronic Science and Technology of China, CHINA

3.31 The Thermal Analysis of Ka-band Gyrotron Beryllia Output Window bк!
Li, RuLi; Niu, XinJian; Liu, YingHui
University of Electronic Science and Technology of China, CHINA

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3.32 Development of Dual Anode Electron Gun and PPM Beam Focusing for Space Helix TWT bк!
Sharma, RK; Arya, S; Mercy Latha, A; Pareek, P; Sharma, SM; Ghosh, SK; Srivastava, V
CSIR-CEERI, INDIA

3.33 Estimation of Permittivity and Loss Tangent of High Frequency Ceramics using Free Space Method прн
Yadav, V.[1]; Kumar, N.[1]; Singh, U.[1]; Kumar, A.[1]; Deorani, S.C.[2]; Sinha, A.K.[1]
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3.34 Design of Sheet Beam Electron Gun for a X-Band Klystron bк!
Jangid, S.K.; Bandyopadhyay, A.K.; Joshi, L. M.; Kant, D.; Devi, N.; Pal, D.
Central Electronics Engineering Research Institute, INDIA

3.35 Numerical modeling of Liquid Cooled CCTWT Collector прп
Singh, A. K.; SriKrishna, P.; Subramanian, S.
Microwave Tube Research & Development Centre, INDIA

3.36 Recent Development on the Modeling of Electrical Contact прс
Zhang, Peng; Lau, Y. Y.
University of Michigan, UNITED STATES

3.37 Influence of the Incident Angle on Energy Dependence of a Secondary Electron Emission Yield пру
Bundaleski, N.[1]; Behlaj, M.[2]; Gineste, T.[2]; Teodoro, O.M.N.D.[1]
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3.38 The Design Considerations of W-Band Broad Band Output Window псл
Wang, S.Z.[1]; Ruan, C.J.[2]; Yang, X.D.[2]; Zhao, D.[2]; Zhang, C.Q.[2]
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3.39 Applications of Microwave Plasma CVD Diamond in mm TWTs bк!
Ding, M. Q[1]; Li, Li L[2]; Du, Ying H.[2]; Hu, Yin F.[2]; Chen, Bo[2]; Li, Li[2]; Feng, Jin J.[2]
[1]Beijing Vacuum Electronics Research Institute, CHINA; [2]Beijing Vacuum Electronics Research Institute,, CHINA

3.40 The Study of Mini Coupler by the Stepped-impedance Technology bк!
Zhu, Zhaojun; Jia, Baofu; Cheng, Shaofei; Yu, Bin
University of Electronic Science and Technology of China, CHINA

3.41 Particularities of Reversible Magnetic Focusing System Development for Multi-Beams Klystrons псн
Akimov, P.I.[1]; Nikitin, A.P.[1]; Melnichuk, G.V.[1]; Freydovich, I.A.[1]; Chudin, V.G.[1]; Dormidontov, A.G.[2]; Drozdov, S.S.[2]; Sergeev, K.L.[2]; Lukin, A.A.[2]; Bogoslovskaya, A.B.[3]
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3.42 RF Window for a 350 kW CW X-Band Klystron псп
Prokofiev, B.[1]; Yegorov, A.[1]; Grigoriev, A.[2]
[1]FSUE "Scientific & Production Corp. "Toriy", RUSSIAN FEDERATION; [2]Saint-Petersburg State Electrotechnical University, RUSSIAN FEDERATION

3.43 Rayleigh Scattering Measurement of Residual Gas Inside Microwave Vacuum Electronic Devices псс
Sun, Xiaohan
Southeast Univeristy, CHINA

3.44 Waveguide Window for a Broadband Multibeam Ka-Band Klystron псу
Prokofiev, B.[1]; Freidovich, I.[1]; Balabanov, A.[1]; Yegorov, A.[1]; Zakirov, A.[1]; Grigoriev, A.[2]
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3.45 Development of Output Structures for 650MHz CW Klystron bк!
Zhang, X; Wang, Y
Electronic institute of Chinese Academic of sciences, CHINA

3.46 Growth of Graphite Film on Copper Foil by Plasma Enhanced Chemical Vapor Depositon птл
Shi, C.Y.; Zhao, N.; Zhao, Z.W.; Lei, W.
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3.47 Thermodynamic Analysis of the TWT Electron Gun bк!
Qi, QWL
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3.48 **Other**
The Ion Extraction Efficiency of Tiny Amounts of Gases Analysis with Quadrupole Mass Spectrometry bк!
Ji, Xiaocong; Xiao, Mei; Wang, Hui; Liu, Shunming
Southeast University, CHINA

3.49 Application of Microwave Technology in Deep Desulfurization of Coking Coaf bк!
Yao, YT
Nanjing Sanle Microwave Technology Development Company Limited, CHINA

PSU's, Transmitters and MPM's

3.50 Components of Heating and Fueling of Fusion Plasmas птн
Kempkes, Michael; Schrock, Kenneth; Roth, Ian; Gaudreau, Marcel
Diversified Technologies, Inc., UNITED STATES

3.51 Switch Tube Test Set птп
Kempkes, Michael; Kinross-Wright, John; Jashari, Luan; Chipman, Chris
Diversified Technologies, Inc., UNITED STATES

3.52 DC-Link Capacitor Voltage Balancing using Redundant Vectors for Five-Level Neutral Point Clamped Voltage Source Inverter птс
Abdelkrim, T.[1]; Benamrane, K .[1]; Benkhelifa, Aeh.[1]; Bezza, B .[1]; Benslimane, T.[2]
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3.53 Technologies for a C\X\Ku band pulsed MPM bк!
Shi, SMM
Nanjing Sanle Electronic Information Industry Group,Instutute of Electronic Devices,Inc, CHINA

3.54 A X-band Pulsed MPM for Radar System пту
Kou, Jianyong[1]; Wei, Yixue[1]; Zhang, Hongzhi[1]; Wang, Hefei[1]; Huang, fugang[2]; Wang, Bin[2]; Zhang, Yong[3]; Yan, Bo[3]
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