The 15th CRYOGENICS 2019

IIR International Conference

Prague, Czech Republic
April 8 – 11, 2019

Conference Partners & Sponsors

ILK Dresden
Institut für Luft- und Kältetechnik gemeinnützige Gesellschaft mbH

MIRAI

MESSER Gases for Life

PBS Velka Bites SINCE 1814

CHART Innovation. Experience. Performance.

PROGRAMME

www.cryogenics2019.eu

Sunday, April 7, 2019

17:00 – 19:00 **REGISTRATION**

19:00 – 22:00 **WELCOME PARTY**

MESSER Gases for Life

Monday, April 8, 2019

08:15 – 18:00 **REGISTRATION & INFORMATION DESK**

OPENING CEREMONY

Chairs: Vaclav CHRZ, Ralf HERZOG, Didier COULOMB

09:00 **WELCOME TO THE 15TH CRYOGENICS 2019**

SESSION I: CRYOGENICS IN PARTICLE PHYSICS I

Chairs: Ralf HERZOG / Ales SRNKA

09:15 **0063** **OVERVIEW AND STATUS OF THE LONG-BASELINE NEUTRINO FACILITY CRYOGENICS SYSTEM**

David MONTANARI[a], **Mark ADAMOWSKI**[a], **Johan BREMER**[b], **Michael DELANEY**[a], **Roza DOUBNIK**[a], **Justin FREITAG**[a], **Kevin HAAF**[a], **Trevor NICHOLS**[a], **Adrien PARCHET**[b]

[a] Fermi National Accelerator Laboratory (Fermilab), Batavia, IL, Unites States

[b] Centre Européen Recherche Nucléaire (CERN), Geneva, Switzerland

09:35 **0004** **THE ESS TEST AND INSTRUMENTS CRYOPLANT – CHALLENGES FROM DESIGN TO INSTALLATION, COMMISSIONING AND OPERATION**

Philipp ARNOLD, M. BOROS, R. GONCALVES, P. NILSSON, Xiatao SU

European Spallation Source ERIC, Lund, Sweden

09:55 0046 CRYOGENIC TECHNOLOGIES OF THE SUPERCONDUCTING NICA ACCELERATOR COMPLEX

Nikolay AGAPOV, Hamlet KHODZHIBAGIYAN, Anton KONSTANTINOV, Grigory KUZNETSOV, Iuliia MITROFANOVA, Dmitry NIKIFOROV, Ekaterina SHEVCHENKO
Joint Institute for Nuclear Research, Dubna, Russia

10:15 0050 ADAPTABLE CRYOSORPTION PUMP SYSTEM FOR SIS100

Sandra TIPPMANN[(a)], Thomas JANDE[(a)], Sebastian HEMPEL[(a)], Andreas KADE[(a)], Jürgen KLIER[(a)], Stefan WILFERT[(b)], Ivan PONGRAC[(b)]
[(a)] Institut für Luft- und Kältetechnik gemeinnützige Gesellschaft mbH, Dresden, Germany, [(b)] GSI Helmholzzentrum für Schwerionenforschung GmbH, Darmstadt, Germany

10:35 0073 CONCEPT DESIGN OF CRYOGENIC SYSTEM FOR THE HIGH ENERGY PHOTON SOURCE AT IHEP

Rui GE, Changcheng MA, Jiehao ZHANG, Ruixiong HAN, Zhuo ZHANG, Minjing SANG, Mei LI, YongCheng JIANG, Zhengze CHANG, Xiangzhen ZHANG, Shaopeng LI
Institute of High Energy Physics Chinese Academy of Sciences, Beijing, China

COFFEE BREAK

10:55 – 11:15

SESSION II: SUPERCONDUCTING MAGNETS AND COMPONENTS

Chairs: Ales SRNKA / Petar DALAKOV

11:15 0015 SUPERCONDUCTING MAGNETS FOR NICA PROJECT

Dmitry NIKIFOROV, Sergey KOSTROMIN, Hamlet KHODZHIBAGIYAN, Yury BESPALOV, Denis CHEBYKIN, Dmitry CHERKUNOV, Valerii PASHINSKII
Joint Institute for Nuclear Research, Dubna, Russia

11:35 0023 DESIGN OF THE PANDA SOLENOID MAGNET

Evgeniy E. PYATA[(a)], Alexey V. BRAGIN[(a)], Mikhail A. KHOLOPOV[(a)], Jost LUEHNING[(c)], Sergey G. PIVOVAROV[(a)], Lars SCHMITT[(b)], Yury A. Tikhonov [(a)]
[(a)] BINP, Novosibirsk, Russia, [(b)] FAIR, Darmstadt, Germany, [(c)] GSI, Darmstadt, Germany

11:55 0021 CRYOGENIC TESTS OF THE MAIN HTS CURRENT LEADS FOR THE SIS100 HEAVY ION ACCELERATOR OF THE FAIR PROJECT

Vladimir DATSKOV, Egbert FISCHER, Alexander BLEILE, Florian KAETHER, Anna MIERAU
GSI Helmholzzentrum für Schwerionenforschung GmbH, Darmstadt, Germany

12:15 0039 MULTICHANNEL TEMPERATURE REGULATOR FOR SIS100 HTS CURRENT LEADS

Norbert GUST[(a)], Kamil KOZLOWSKI[(b)], Vladimir DATSKOV[(b)] , Egbert FISCHER[(b)]
[(a)] 1 Institut für Luft- und Kältetechnik (ILK) gGmbH, Dresden, Germany
[(b)] GSI Helmholzzentrum für Schwerionenforschung GmbH, Darmstadt, Germany

12:35 0072 FIELD TEST RESULTS OF SELF-CALIBRATING CRYOGENIC MASS FLOW METER

Miralem OKANOVIC, P. Erni, M. Boersch, J. Drache, G. Consogno, D. Oertig
WEKA AG, Baeretswil, Switzerland

LUNCH

12:55 – 14:00

SESSION III: HTC / COOLING SYSTEMS FOR HTC APPLICATIONS

Chairs: Petar DALAKOV / Tomas KRALIK

14:00 0002 LIQUID NITROGEN COOLING SYSTEM FOR SUPERCONDUCTING ELECTRICITY CABLES – EXPERIENCES AND ADVANTAGES

Friedhelm HERZOG[(a)], Thomas KUTZ[(b)]
[(a)] Messer Group GmbH, Krefeld, Germany, [(b)] Messer Industriegase GmbH, Bad Soden, Germany,

14:20 0001 EFFECT OF THE PROTON IRRADIATION ON THE THERMALLY ACTIVATED FLUX FLOW IN SUPERCONDUCTING SMBCO COATED CONDUCTORS

Yong Seung KWON
Department of Emerging Materials Science, DGIST, Daegu, Republic of Korea

14:40 0007 INFLUENCE OF MIXTURE COMPOSITION ON THE PERFORMANCE OF CRYOGENIC MIXED-REFRIGERANT COOLED CURRENT LEADS

Eugen SHABAGIN[(a)], Steffen GROHMANN[(a,b)]
[(a)] Karlsruhe Institute of Technology, Institute of Technical Physics, Eggenstein-Leopoldshafen, Germany
[(b)] Karlsruhe Institute of Technology, Institute of Technical Thermodynamics and Refrigeration, Karlsruhe, Germany

15:00 0088 CRYOGENIC SYSTEMS FOR TWO SUPERCONDUCTING CYCLOTRONS UNDER DEVELOPMENT AT CIAE

Suping ZHANG[(a)], Meng YIN[(a)], Chuan WANG[(a)], Tianjue ZHANG[(a)], Yu CHENG[(b)], Hongjii ZHOU[(b)], Guangchao LI[(b)]

[(a)] China Institute of Atomic Energy, Beijing, China,
[(b)] Shanghai Chenguang Medical Technologies Co., Ltd., Shanghai, China

15:20 0041 CORRELATION BETWEEN GRAIN CONNECTIVITY, PACKING DENSITY, AND CRITICAL CURRENT DENSITY IN MgB_2 SYNTHESIZED BY IN SITU/EX SITU COMBINATION TECHNIQUE

M. Shahabuddin SHAH[(a)], Md. SHAHABUDDIN[(b)], Nasser S. ALZAYED[(b)]

[(a)] College of Medicine, Dar Al Uloom University, Riyadh, Saudi Arabia, [(b)] Department of Physics and Astronomy, College of Science, King Saud University, Riyadh, Saudi Arabia

COFFEE BREAK

15:40 – 16:00

SESSION IV: CRYOGENICS IN PARTICLE PHYSICS II / SPACE CRYOGENICS

Chairs: Shrikant PATTALWAR / Pavel SCHUSTR

16:00 0085 CRYOGENIC TARGETS OF THE LIGHTEST GASES (HYDROGEN, DEUTERIUM AND HELIUM-4) WITH GM CRYOCOOLER FOR EXPERIMENTS OF HIGH ENERGY PHYSICS

D.I. KLIMANSKIY[(1)], Ivan A. ARKHAROV[(2)], A.V. KONSTANTINOV[(1)], Y.T. BORZUNOV[(1)], N.N. AGAPOV[(1)], E.S. NAVASARDYAN[(2)], A.M. ARKHAROV[(2)]

[(1)]Joint Institute for Nuclear Research, Dubna, Russia,
[(2)]Bauman Moscow State Technical University, Moscow, Russia

16:20 0078 BRAYTON-CYCLE THERMAL MANAGEMENT SYSTEM FOR HIGH-REPETITION PULSED LASER

Bedřich RUS
Institute of Physics ASCR, ELI Beamlines, Dolni Brezany, Czech Republic

16:40 0022 REFRIGERATION LINDE-HAMPSON MACHINE AT 90K OPERATION BY USE OF OZONE FRIENDLY REFRIGERANTS

Petar DALAKOV[(a)], Jürgen KLIER[(a)], Andrey ROZHENTSEV[(b)]

[(a)]Institut für Luft- und Kältetechnik (ILK Dresden) gemeinnützige Gesellschaft mbH, Dresden, Germany,
[(b)]Odessa National Academy of Food Technologies, Odessa, Ukraine

17:00 0061 INVESTIGATION ON ENGINEERING APPLICATIONS OF CRYOGENIC PIPELINE CHILL-DOWN

Jiaojiao WANG[(a)], Yanzhong LI[(a,b)], Lei WANG[(a)], Tian YAN[(a)], Fushou XIE[(a)]

[(a)]Institute of Refrigeration & Cryogenic Engineering, School of Energy and Power Engineering, Xi'an Jiaotong University, Xi'an, China,
[(b)]State Key Laboratory of Technologies in Space Cryogenic Propellants, Beijing, China.

17:20 0058 CFD INVESTIGATION ON THERMODYNAMIC CHARACTERISTICS OF ON-ORBIT CRYOGENIC TANK DURING REORIENTATION PROCESS

Lei WANG[(a)], Tian YAN[(a)], Jiaojiao WANG[(a)], Yanzhong LI[(a)], Rui ZHUAN[(b)], Liang ZHANG[(b)]

[(a)] Institute of Refrigeration & Cryogenic Engineering, Xi'an Jiaotong University, Xi'an, China,
[(b)] Shanghai Institute of Aerospace System Engineering, Shanghai, China

Tuesday, April 9, 2019

08:15 – 18:00 REGISTRATION & INFORMATION DESK

SESSION V: LIQUID HELIUM, AIR SEPARATION, CO_2

Chairs: Christoph HABERSTROH / Radovan KUNDERA

09:00 0047 ROOT CAUSE ANALYSIS OF EARLY PERFORMANCE DETERIORATION OF AN EXISTING HELIUM LIQUEFIER USING PROCESS SIMULATION

Aasheesh BAJPAI, Aman K. DHILLON, Rohan DUTTA, Parthasarathi GHOSH
Cryogenics Engineering Centre, Indian Institute of Technology Kharagpur, India

09:20 0066 DESIGN OPTIMIZATION OF THE HELIUM TURBINES INTENDED TO OPERATE CLOSE TO THE SATURATION CURVE

Vojtěch KOHUT[(a)], Radovan KUNDERA[(b)]

[(a)] První brněnská strojírna Velká Bíteš, a. s., Czech Republic, [(b)] PBS ENERGO, a.s., Velká Bíteš, Czech Republic

09:40 0032 IMPROVING SPECIFIC POWER CONSUMPTION OF CRYOGENIC AIR SEPARATION PLANTS USING WASTE HEAT OF CARBON CAPTURE POWER PLANTS

Rohit SINGLA, Kanchan CHOWDHURY
Cryogenic Engineering Centre, Indian Institute of Technology Kharagpur, India

10:00 0038 ANALYSIS OF MULTI-STREAM HEAT EXCHANGER IN CRYOGENIC AIR SEPARATION PLANTS PRODUCING HIGH PRESSURE OXYGEN

Rohit SINGLA, Kanchan CHOWDHURY
Cryogenic Engineering Centre, Indian Institute of Technology, Kharagpur, India

10:20 0044 EXPERIMENTAL INVESTIGATION OF LOW TEMPERATURE CO_2 LIQUEFACTION AND PHASE-SEPARATION FOR CARBON CAPTURE

Stian TRÆDAL, David BERSTAD, Jacob STANG
SINTEF Energy Research, Trondheim, Norway

COFFEE BREAK

10:40 – 11:00

SESSION VI: RARE GASES

Chairs: Vaclav CHRZ / Ivan ARKHAROV

11:00 0026 UNIVERSAL RESEARCH CRYOGENIC UNIT FOR XENON PRODUCTION

Maksim KUPRIYANOV, Tatiana USTIUGOVA
Bauman Moscow State Technical University, Moscow, Russia

11:20 0040 LOW-TEMPERATURE APPLICATION ADSORPTION METHOD FOR SEPARATION OF RARE INERT GAS ISOTOPE MIXTURE

Maxim KUPRIYANOV, Artem VERKHOVNY
Bauman Moscow State Technical University (National Research University), Moscow, Russia

11:40 0076 NATURAL NEON-HELIUM MIXTURE AS WORKING FLUID FOR 40-80 K CRYOGENIC REFRIGERATORS

Sofiya SAVELYEVA[(a)], Steffen KLÖPPEL[(a)], Christoph HABERSTROH[(a)], Hans QUACK[(a)], Alexander ALEKSEEV[(b)], Lutz DECKER[(c)]
[(a)] Technische Universität Dresden, Dresden, Germany, [(b)] Linde AG, Pullach, Germany
[(c)] Linde Kryotechnik, Pfungen, Switzerland

12:00 0024 EXTRACTION OF XENON FROM INERT GAS MIXTURES

V.L. BONDARENKO[(a)], Artem A. CHYHRIN[(b)], Ye.V. MEDUSHEVSKYI[(c)]
[(a)] Moscow Bauman State Technical University, Moscow, Russia, [(b)] Cryoin Engineering, LTD, Odessa, Ukraine,
[(c)] Institute of Refrigeration Cryotechnology and Ecoenergetics n.a., Odessa, Ukraine

12:20 0048 MITIGATING PROBABILITY OF FIRE IN A HIGH PRESSURE OXYGEN SYSTEM BY APPROPRIATE DESIGN OF DIVERGENT PIPE LEADING TO PARTICLE FILTER

Argha SAHA, Kanchan CHOWDHURY
Cryogenic Engineering Centre, Indian Institute of Technology Kharagpur, India

LUNCH

12:40 – 14:00

SESSION VII: CRYOSTATS, CRYOCOOLERS AND CRYOGENIC COOLING SYSTEMS

Chairs: Shrikant PATTALWAR / Pavel URBAN

14:00 0027 NEW ASPECTS IN THE DESIGN OF NON-METALLIC CRYOSTATS FOR LIQUID HELIUM AND NITROGEN

Gregor TROMMLER, Ursula BOEHM, Matthias SCHNEIDER, Gabriele SPOERL, Andreas KADE
Institut für Luft- und Kältetechnik gemeinnützige Gesellschaft mbH Dresden, Germany; Dresden, Germany

14:20 0079 NUMERICAL SIMULATION AND EXPERIMENTAL STUDY OF DN1250 CRYOPUMP UNDER DIFFERENT THERMAL CONDITIONS

Zhao YUESHUAI, Shao RONGPING, Sun WEI, Sun LICHEN
Beijing Institute of Spacecraft Environment Engineering, Beijing, China

14:40 0045 THE COLD COMPRESSORS IN THE FIELD OF CRYOGENIC SYSTEMS

Martin KROUPA, Vladislav PLASIL, Marek NOVOTNY
ATEKO a.s., Hradec Kralove, Czech Republic

15:00 0069 ONE-DIMENSIONAL NUMERICAL ANALYSIS FOR GIFFORD-MCMAHON PULSE TUBE CRYOCOOLER

Natheer ALMTIREEN, Jürgen J. BRANDNER, Jan G. KORVINK
Karlsruhe Institute of Technology (KIT), Institute of Microstructure Technology (IMT),
Eggenstein-Leopoldshafen, Germany

15:20 0077 RECENT PROGRESS IN COMPACT, LOW POWER CRYOCOOLERS

Tonny BENSCHOP
Thales Cryogenics, Eindhoven, 5626DC, Netherlands

POSTER SESSION & SNACK

15:40 – 17:30

SEE THE LIST OF POSTERS BELOW

AND THE LINK "INSTRUCTIONS FOR AUTHORS" ON THE WEB PAGE FOR MORE DETAILS ABOUT POSTER COMPETITION

Wednesday, April 10, 2019

08:15 – 15:30 REGISTRATION & INFORMATION DESK

SESSION VIII: LIQUEFIED NATURAL GAS

Chairs: Ivan ARKHAROV / Pavel SCHUSTR

09:00 0033 UTILIZATION OF COLD ENERGY OF LIQUEFIED NATURAL GAS IN AIR SEPARATION PLANT IN A SAFER AND MORE ENERGY EFFICIENT WAY

Jubil JOY, Rohit SINGLA, Kanchan CHOWDHURY

Cryogenic Engineering Centre, Indian Institute of Technology Kharagpur, India

09:20 0054 STUDY OF MIXED REFRIGERANT NATURAL GAS LIQUEFACTION PROCESS USING A MIXTURE OF NON-FLAMMABLE REFRIGERANTS

Alexander KROTOV, Andrey KOLESNIKOV, Yaroslav SAMOKHVALOV, Roman KUZNETSOV, Dmitry PRONIN, Anatoly ZHERDEV

Bauman Moscow State Technical University, Moscow, Russia

09:40 0082 INVENTORY OF LNG TERMINALS WITH VACUUM INSULATED TANKS

Mikolas KRAL

Chart Ferox a.s., Decin, Czech Republic

10:00 0083 SAFETY OF LARGE VACUUM INSULATED LNG TANKS

Pavol KOVAC, Vaclav CHRZ, Martin LANSKY

CHART Ferox a.s., Decin, Czech Republic

10:20 0035 UTILIZATION OF ENGINE EXHAUST GAS IN BOIL-OFF GAS RELIQUEFACTION SYSTEM OF A LNG CARRIER SHIP

Sarun Kumar KOCHUNNI, Kanchan CHOWDHURY

Indian Institute of Technology Kharagpur, India

COFFEE BREAK

10:40 – 11:00

SESSION IX: LIQUEFIED NATURAL GAS / CRYOMEDICINE

Chairs: Vaclav CHRZ / Gabriele SPÖRL

11:00 0070 THE CRYOGENIC AIR AND SEAS OF TITAN

Ralph LORENZ

Johns Hopkins Applied Physics Laboratory, Laurel, MD, USA

11:20 0030 MODELING AND THERMAL RESISTANCE ANALYSIS OF LNG GASIFICATION IN AMBIENT AIR VAPORIZERS

Lemei REN, Wenling JIAO, Xinghao TIAN

School of Architecture, Harbin Institute of Technology; Key Laboratory of Cold Region Urban and Rural Human Settlement Environment Science and Technology, Ministry of Industry and Information Technology Harbin, China

11:40 0037 OWN EXPERIENCE FROM THE 22 YEAR LASTING PROCESS OF HARMONIZATION OF THE EUROPEAN UNION SAFETY AND QUALITY REQUIREMENTS FOR HARVESTING PROCESSING AND DISTRIBUTION OF HUMAN CELLS AND TISSUES USED FOR CLINICAL TRANSPLANTATION

Pavel MERICKA, Hana STRAKOVA, Barbora HONEGROVA, Miriam LANSKA, Doris VOKURKOVA, Daniel BRANDEJS, Miroslava JANDOVA, Jiri GREGOR, Pavel SPONER, Stanislav FILIP, Lubomir STERBA

University Hospital Hradec Kralove, Czech Republic

12:00 0067 CLOSED CYCLE CRYOSURGICAL DEVICE WITH PHASE SEPARATOR AND MIXED REFRIGERANT

Alexander KROTOV[(a)], Yaroslav SAMOKHVALOV[(a)], Artem VERKHOVNY[(a)], Alexander VASILYEV[(b)]

[(a)] Bauman Moscow State Technical University, Moscow, Russia

[(b)] Department of urology Moscow State University of Medicine and Dentistry named after A.I. Evdokimov, Moscow, Russian Federation

12:20 0074 NEW CRYOPRESERVATION TECHNOLOGY FOR AUTOLOGOUS CULTURED HUMAN MESENCHYMAL STROMAL CELLS (HMSCS) – INITIAL EXPERIENCE

Miroslava JANDOVÁ[(1)],Pavel MĚŘIČKA[(1)], P. ŠPONER[(2)], D. VOKURKOVÁ[(3)], A. FILIPOVÁ[(4)], A. HORYNOVÁ[(1)], S. FILIP[(5)]

[(1)]Tissue Bank, University Hospital Hradec Králové, [(2)]Orthopaedic Department, University Hospital Hradec Králové, [(3)]Department of Clinical Immunology and Allergology, University Hospital Hradec Králové, [(4)]Faculty of Military Medicine of the University of Defence in Hradec Králové, [(5)]Department of Radiotherapy and Oncology, University Hospital Hradec Králové, Czech Republic

LUNCH

12:40 – 14:00

SESSION X: PROPERTIES, ENERGY STORAGE, LIQUID HYDROGEN

Chairs: Christoph HABERSTROH / Martin LANSKY

14:00 0028 AN OVERVIEW OF THE THERMAL RADIATIVE PROPERTIES OF METALLIC MATERIALS

Jiří FROLEC, Tomáš KRÁLÍK

The Czech Academy of Sciences, Institute of Scientific Instruments, Brno, Czech Republic

14:20 0011 COLD STORAGE SOLUTIONS FOR A LIQUID AIR ENERGY STORAGE SYSTEM

Gregor TROMMLER[(a)], Martin KLUPSCH[(a)], Detlef EGGERS[(b)], Philipp BOBSIN[(b)], Christian WENDT[(c)], Niklas BOHNE[(d)]

[(a)] Institut für Luft- und Kältetechnik gemeinnützige Gesellschaft mbH, Dresden, Germany, [(b)] RST Rostock System-Technik GmbH, Rostock, Germany, [(c)] Ariane Group, Bremen, Germany , [(d)] Universität Bremen, Bremen, Germany

14:40 0019 DYNAMIC MODELLING OF A LIQUID HYDROGEN LOADING CYCLE FROM ONSHORE STORAGE TO A SEABORNE TANKER

Karoline H. KVALSVIK[(a)], David BERSTAD[(b)], Øivind WILHELMSEN[(b,c)]

[(a)] NORCE Norwegian Research Centre, Bergen, Nygårdstangen, Norway, [(b)] SINTEF Energy Research, Trondheim, Torgarden, Norway, [(c)] Department of Energy and Process Engineering, The Norwegian University of Science and Technology, Trondheim, Norway

15:00 0013 COMPARING THE PERFORMANCE OF PLATE-FIN AND SPIRAL WOUND HEAT EXCHANGERS IN THE CRYOGENIC PART OF THE HYDROGEN LIQUEFACTION PROCESS

Geir SKAUGEN[(a)], Øivind WILHELMSEN[(a,b)]

[(a)] SINTEF Energy Research, Trondheim, Norway,
[(b)] Norwegian University of Science and Technology, Trondheim, Norway

15:20 CLOSING CEREMONY & POSTER AWARD

CONFERENCE DINNER

19:30 – 23:00

Posters

SUPERCONDUCTIVITY AND MAGNETS

0016 MEASUREMENT OF STATIC HEAT LEAK AND DYNAMIC HEAT RELEASES FOR NICA SC MAGNETS

Yury BESPALOV, Dmitry NIKIFOROV, Sergey SMIRNOV, Hamlet KHODZHIBAGIYAN

Joint Institute for Nuclear Research of Russia, Dubna, Russia

0034 DEVELOPMENT OF CRYOGENIC COOLING SYSTEM FOR THE SUPERCONDUCTING DIPOLE MAGNET OF THE CBM DETECTOR

Alexey V. BRAGIN, Mikhail A. KHOLOPOV, Nikolay A. MEZENTSEV, Vasily M. SYROVATIN, Vitaly A. SHKARUBA, Yury A. TIKHONOV

Budker Institute of Nuclear Physics, Novosibirsk, Russia

0012 CORRECTION MAGNETS FOR BOOSTER OF COMPLEX ACCELERATOR NICA

Kseniia LOSHMANOVA, Dmitry NIKIFOROV, Sergey SMIRNOV

Joint Institute for Nuclear Research of Russia, Dubna, Moscow region, Russia

0056 RESULTS OF WINDING AND VACUUM-PRESSURE IMPREGNATION OF SUPERCONDUCTIVE DOUBLE PANCAKES OF PF1 COIL ITER

Andrey MEDNIKOV[(a)], Andrey BURSIKOV[(a)], Oleg KOVALCHUK[(a)], Alexander SAFONOV[(a)], Egor MARUSHIN[(a)], Igor RODIN[(a)], Dmitry STEPANOV[(a)], Alexander USTINOV[(b)]

[(a)] JSC «D.V. Efremov Institute of Electrophysical Apparatus», Saint-Petersburg, Russia

[(b)] Institution "Project Center ITER", Moscow, Russia

0043 EFFICIENCY OF OPERATION OF CRYOGENIC SYSTEM OF SUPERCONDUCTING WIGGLERS WITH CRYOCOOLERS

Sergey KHRUSCHEV, Nikolay MEZENTSEV, Vitaly SHKARUBA, Valery TSUKANOV, Vasily SYROVATIN

Budker Institute of Nuclear Physics, Novosibirsk, Russia

0049 THE INFLUENCE OF CRYOGENIC TEMPERATURE ON CHARACTERISTICS OF SUPERCONDUCTING MAGLEV SYSTEMS

Maksim OSIPOV, Aleksander STARIKOVSKII, Dmitrii ABIN, Sergey POKROVSKII, Irina ANISCHENKO, Igor RUDNEV

National Research Nuclear University MEPhI, Moscow, Russia

0009 THE ENHANCEMENT OF THE CRITICAL TEMPERATURE IN THIN ALUMINIUM FILMS

Egor SEDOV[(a)], Ilya GOLOKOLENOV[(a,b)], George KONSTANTINIDIS [(c)], Antonis STAVRINIDIS[(c)], George STAVRINIDIS[(c)], VitaliyZAVIALOV[(b)], Konstantin ARUTYUNOV[(a,b)]

[(a)] National Research University Higher School of Economics, Moscow, Russia, [(b)] P. L. Kapitza Institute for Physical Problems RAS, Moscow, Russia, [(c)] Institute of Electronic Structure & Laser (IESL), Foundation for Research & Technology Hellas (FORTH), Heraklion, Greece

CRYOGENICS FOR ELECTRONICS

0031 DESIGN OF CRYOGENIC SAMPLE HOLDER WITH ELECTRICAL CONTACTS FOR UHV SEM/SPM

Vojtěch KRUTIL, Libor DUPÁK, Tomáš FOŘT, Milan MATĚJKA, Aleš SRNKA, Ivan VLČEK, Pavel URBAN

The Czech Academy of Sciences, Institute of Scientific Instruments, Brno, Czech Republic

HTC FOR POWER AND GRIDS

0008 ANALYSIS OF THE INFLUENCE STRUCTURAL DEFECTS ON THE CRITICAL CURRENT OF THE HTC SUPERCONDUCTING TAPES

Jacek SOSNOWSKI

Electrotechnical Institute, Warsaw, Poland

CRYOGENICS FOR FUSION

0051 PF1 COIL JOINT FATIGUE TEST RESULTS AT LN2

Oleg KOVALCHUK, Egor MARUSHIN, Andrey MEDNIKOV, Igor RODIN, Alexander SAFONOV, Maria SUKHANOVA, Dmitry STEPANOV

The D.V. Efremov Scientific Research Institute of Electrophysical Apparatus (NIIEFA), Saint Petersburg, Russia

SPACE CRYOGENICS

0089 DESIGN AND ANALYSIS OF TEMPERATURE-ADJUSTABLE SHROUD SYSTEM FOR THE SPACE ENVIRONMENT SIMULATOR

Chao HE[(a)], Min ZHANG[(b)], Ying ZHOU[(a)], Gao LI[(a)], Wenjing DING[(a)], Lei ZHANG[(a)], Zhifei GU[(a)], Yi ZHANG [(a)] , Ang LI[(a)], Xuezhang WANG[(a)]

[(a)] Beijing Institute of Spacecraft Environment Engineering, Beijing, China

[(b)] National Space Science Center, Chinese Academy of Sciences, Beijing, China

0014 EFFECT OF SPARGER ON INJECTION COOLING PERFORMANCE OF CRYOGENIC LIQUIDS

Pritam SAHA, Pavitra SANDILYA

Cryogenic Engineering Centre, Indian Institute of Technology Kharagpur, India

MATERIALS AT LOW TEMPERATURES

0075 DEVELOPMENT OF A LIQUID HELIUM BASED BONDING STRENGTH EXPERIMENTAL SYSTEM TOWARDS ENHANCED PERFORMANCE OF CRYOSORPTION PUMP

Ravi VERMA[(a,b)], Upendra BEHERA[(a)], H. N. NAGENDRA[(a)], S. KASTHURIRENGAN[(a)], N. C. SHIVAPRAKASH[(b)]

[(a)]Centre for Cryogenic Technology, Indian Institute of Science, Bangalore, India

[(b)]Instrumentation and Applied Physics, Indian Institute of Science, Bangalore, India

CRYOGENICS EQUIPMENT AND CRYOSTATS

0068 DEVELOPMENT AND TEST RESULSTS OF CRYOGENIC HIGH-PRESSURE PUMPING SYSTEMS

Ulrich ZERWECK, Gunar SCHROEDER, Frank SCHOEPE, Norbert GUST, Martin KLUPSCH, Juergen KLIER, Moritz KUHN, Steffen RICHTER
Institut für Luft- und Kältetechnik (ILK) gemeinnützige Gesellschaft mbH,Dresden, Germany

0086 HEAT TRANSFER ANALYSIS OF A CRYOGENIC VESSEL WITH BUILT-IN ASSEMBLY

Daria PAVLENKO[(a)], Radek ŠULC[(b)]
[(a)]CHART FEROX, a.s., Decin, Czech Republic, [(b)]CTU, Faculty of Mech. Engng, Prague, Czech Republic

CRYOCOOLERS

0042 THE EFFECT OF HTS HEAT REJECTION CONDITIONS ON PERFORMANCE OF REVERSE BRAYTON CRYOCOOLER

A. K. DHILLON, A. BAJPAI, Parthasarathi GHOSH
Cryogenic Engineering Centre, IIT Kharagpur, India

0090 DESIGN AND CONSTRUCTION OF A PRESSURE WAVE CRYOGENIC REFRIGERATOR

Shariq ZAFAR, Aman GUPTA, Tapas K. NANDI
Cryogenic Engineering Centre, Indian Institute of Technology Kharagpur, India

CRYOGENIC ENERGY STORAGE

0071 MODELLING OF THE THERMAL RADIATION SHIELDS FOR CRYOGENIC SYSTEMS

Marian CURUIA, Mihai ANGHEL, Catalin BRILL, Oleksandr SIROSH, Mihai VARLAM
National Research and Development Institute for Cryogenics and Isotopic Technologies – ICSI, Ramnicu Valcea, Romania

RARE GASES

0025 SOLID NEON AND ITS OBTAIN IN THE LABORATORY CONDITIONS

V.L. BONDARENKO[(a)], Iu.M. SYMONENKO[(b)], Boris A. PYLYPENKO[(c)]
[(a)]Moscow Bauman State Technical University, Moscow, Russia, [(b)]Institute of Refrigeration Cryotechnology and Ecoenergetics n.a. V.S. Martynovsky,Odessa, Ukraine, [(c)]Cryoin Engineering, LTD, Odessa, Ukraine

LNG STORAGE AND LIQUEFACTION

0084 ASSESSMENT OF ROLLOVER EFFECTS AT LARGE LNG ATMOSPHERIC AND PRESSURE STORAGE TANKS

Vaclav CHRZ
CHART FEROX a.s., Decin, Czech Republic

0091 STUDY OF THE CRYOGENIC CYCLE BASED ON THE CHOKE EFFECT OF THE JOULE-THOMSON WITH A MIXTURE OF COOLANTS AS A REFRIGERANT.

Andriy MOSTYTSKYI, Oleg BAKLAN, Maksym LYTVYNENKO, Oleksandr PEKARYK, Dmytro LETENKO
Limited Liability Company «Research and Production Company «DNIPRO – MTO», Kyiv, Ukraine

Thursday, April 11, 2019

TECHNICAL EXCURSIONS

09:00 ELI BEAMLINES

10:15 CRYOCHAMBER PRAGUE

09:00 CHART FEROX

09:00 DEPARTMENT OF LOW TEMPERATURE PHYSICS - CHARLES UNIVERSITY IN PRAGUE

Contacts

ICCEX Ltd.
Praha, Czech Republic
www.iccex.cz

Contact person:
Romana Kočová
romana@iccex.cz
q+420 724 504 944