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BIOELECTROMAGNETICS JOURNAL EDITOR'S REPORT. B. Greenebaum. Univ of Wisconsin-Parkside, Kenosha, WI, USA.

CLINICAL DEVICES

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WORKPLACE ASSESSMENT FOR ICD WEARERS IN AN ELECTRICAL COMPANY. I. Magne¹, M. Souques², P. Schmitt³, E. Urban⁴. ¹EDF R&D, Moret sur Loing, France; ²EDF Gaz De France - SEM, Paris, France; ³Laboratoire d'Instrumentation Electronique de Nancy, Vandoeuvre les Nancy, France; ⁴Medtronic France, Boulogne Billancourt, France.

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ELECTROMAGNETIC FIELD THERAPY IN ALZHEIMER'S DISEASE USING MAGNETIC MOLECULAR ENERGIZING (MME) AND ABX THERAPY. T.W. Nichols, Jr¹, D.R. Bonlie², L.A. Pearce³. ¹AMRI PA, Hanover, PA, USA; ²AMRI Int, Calgary, Alberta, Canada; ³AMRI-NC, Mocksville, NC, USA.

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STUDY OF AN REAL INTERFERENCES CASE BETWEEN A NEUROSTIMULATOR AND A DISTRIBUTION SUBSTATION. I. Magne¹, M. Souques². ¹EDF R&D, Moret sur Loing, France; ²EDF Gaz De France - SEM, Paris, France.

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THE EFFECT OF TIME VARYING POWER LINE MAGNETIC FIELDS ON THE CONCENTRATION OF NEUROTRANSMITTERS IN THE MOUSE BRAIN. L. De Jager¹, L. de Bruyn², A. Potgieter². ¹School of Health Tech, Central Univ of Tech, Free State, Bioemfontein, South Africa; ²Clinical Skills Laboratory, Univ of the Free State, Bioemfontein, South Africa.

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TEMPERATURE INCREASE IN THE HEAD REGION CAUSED BY A COMMERCIAL MOBILE PHONE. J. Keshvari. Nokia Research Center, Espoo, Finland.

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DISTURBANCE OF ELECTROMAGNETIC FIELD OF BASE STATION BY PROBES ABOVE GROUND PLANE. W. Joseph, L. Martens. Dept of Information Tech, Ghent Univ, Ghent, Belgium.

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SPECTRUM ANALYZER SETTINGS FOR EVALUATION OF EXPOSURE DUE TO WIMAX SIGNALS. W. Joseph, C. Olivier, L. Martens. Dept of Information Tech, Ghent Univ, Ghent, Belgium.

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A GAIN MEASUREMENT OF ANTENNAS IN THE TISSUE EQUIVALENT LIQUID FOR THE SAR-PROBE CALIBRATION. N. Ishii¹, T. Akagawa¹, K. Sato², L. Hamada³, S. Watanabe³. ¹Niigata Univ, Niigata, Niigata, Japan; ²NTT Advanced Tech, Musashino, Tokyo, Japan; ³National Inst of Information and Communications Tech, Koganei, Tokyo, Japan.

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BIOEFFECTS MODELING AND SIMULATION IN THE TERAHERTZ REGION OF THE ELECTROMAGNETIC SPECTRUM. J. Payne², J. McQuade¹, P. Mason¹, J. Ziriak³, S. Bonham¹, R. Blystone⁴, D. Nelson⁵. ¹Air Force Research Laboratory, Human Effectiveness Directorate, Directed Energy Bioeffects Division, Radio Frequency Radiation Branch, Brooks City-Base, TX, USA; ²Conceptual Mindworks, Inc., San Antonio, TX, USA; ³NHRC - DET DEBL, Brooks City-Base, TX, USA; ⁴Trinity Univ, San Antonio, TX, USA; ⁵Michigan Technological Univ, Houghton, MI, USA.

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DOES A MOUSE HAVE INPUT IMPEDANCE? T. Dlugosz, H. Trzaska. EM Environment Protection Lab., Technical Univ of Wroclaw, Wroclaw, Poland.

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RADIO FREQUENCY DOSIMETRY USING RAY TRACING SOFTWARE. K.M. Yaws¹, K.S. Mylacraine², S.A. Miller¹, L.D. Lyons¹, P.A. Mason¹. ¹AFRL/HEDR, Brooks City-Base, TX, USA; ²Advanced Information Eng Services, San Antonio, TX, USA.

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EXPOSURE ASSESSMENT AMONG SURGEONS USING ELECTROSURGICAL UNITS. J. Wilen¹, B. Liljestränd², M. Sandström¹, K. Hansson Mild^{1,3}. ¹National Inst for Working Life, Umeå, Sweden; ²Dept of Biomedical Eng & Informatics, Univ Hospital, Umeå, Sweden; ³Life Science Center, Örebro Univ, Örebro, Sweden.

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NEAR FIELD MODELING OF COMPLEX SOURCES. L.E. Nord, M. Johansson, A. Fhager, R. Kopecky, M. Persson. Dept of Signals and Systems, Chalmers Univ of Tech, Gothenburg, Sweden.

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NEW HIGH RESOLUTION NUMERICAL MODEL OF INNER EAR ORGANS FOR RF-DOSIMETRY - PRELIMINARY RESULTS IN THE 900 MHz - 10 GHz RANGE. R. Ueberbacher¹, G. Schmid¹, M. Tschabitscher². ¹ARC Seibersdorf research GmbH, Seibersdorf, Austria; ²Center for Anatomy and Cell Biology, Medical Univ of Vienna, Vienna, Austria.

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ESTIMATES OF POWER ABSORPTION IN THE HUMAN HEAD FROM TYPICAL MOBILE TELEPHONES. K. Chan, S. Chhabra, E.D. Mantiply, R.F. Cleveland, Jr. Office of Eng & Tech, Federal Communications Commission, Washington, DC, USA.

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BIOMEDICAL CRITERIA FOR DIGITALLY MODULATED MICROWAVES. J. Silny. Research Center for Bioelectromagnetic Interaction (femu), RWTH Aachen Univ, Aachen, Germany.

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A 1.9 GHz CYLINDRICAL WAVEGUIDE EXPOSURE SYSTEM FOR SMALL RODENTS. A. Thansandote, G. Gajda, E. Lemay, J. McNamee. Health Canada, Consumer & Clinical Radiation Protection Bureau, Ottawa, ON, Canada.
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EVALUATION OF THE SAR BY TWO TYPES OF RF COILS FOR MRI SYSTEM. K. Saito¹, T. Amano², M. Takahashi¹, K. Ito¹, H. Ikehira³. ¹Research Center for Frontier Medical Eng, Chiba Univ, Chiba-shi, Chiba-ken, Japan; ²Graduate School of Science and Tech, Chiba Univ, Chiba-shi, Chiba-ken, Japan; ³National Inst of Radiological Science, Chiba-shi, Chiba-ken, Japan.
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A NUMERICAL REALISTIC MODEL OF MOUSE. G.A. Lovisolio¹, L. Ardoino², V. Lopresto¹, C. Marino¹, R. Pinto¹, M. Piscitelli¹, S. Scapigliati³. ¹Section of Toxicology and Biomedical Sciences, ENEA Casaccia Research Centre, Rome, Italy; ²APAT, Rome, Italy; ³Dept of Electronic Eng, La Sapienza Univ of Rome, Rome, Italy.
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INVESTIGATIONS WITH PERSONAL RF DOSIMETER IN HUNGARY: PRELIMINARY RESULTS IN URBAN AREA. G. Thuróczy, J. Szabó, Z. Nemeth, F.B. Molnár. Nat'l Research Inst for Radiobiology and Radiohygiene, Budapest, Hungary.
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COMPARISON OF SAR IN THE SPECIFIC ANTHROPOMORPHIC MANNEQUIN AGAINST THE ICNIRP LIMIT IN THE USER'S HEAD. G. Bit-Babik, M. Douglas, A. Faraone, C-K Chou. Motorola Corporate EME Research Lab, Fort Lauderdale, FL, USA.
- P-B-22**
DEVELOPMENT OF A SAR-PROBE CALIBRATION SYSTEM IN VHF BAND BASED ON TEMPERATURE MEASUREMENT. L. Hamada¹, H. Asou², K. Sato², S. Watanabe¹, T. Iwasaki³. ¹National Inst of Information and Communications Tech, Koganei, Tokyo, Japan; ²NTT Advanced Tech Corporation, Musashino, Tokyo, Japan; ³Univ of Electro-Communications, Chofu, Tokyo, Japan.
- P-A-23**
NUMERICAL SIMULATION OF ELECTROMAGNETIC FIELDS IN A HUMAN BODY FOR ELECTROMAGNETIC HYPERSENSITIVITY EXPERIMENT. P. Pongpaibool¹, K. Wake¹, T. Nagaoka¹, S. Watanabe¹, Masao Taki². ¹National Inst of Information and Communications Tech, Koganei, Tokyo, Japan; ²Tokyo Metropolitan Univ, Hachioji, Tokyo, Japan.
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MEASUREMENTS OF MAGNETIC FIELDS SURROUNDING DIFFERENT ELECTRONIC ARTICLE SURVEILLANCE (EAS) SYSTEMS IN SHOPS AND LIBRARIES. G. Anger, U. Estenberg, J. Trulsson. Swedish Radiation Protection Authority (SSI), Stockholm, Sweden.
- P-A-25**
DEVELOPMENT OF FOUR TYPICAL SAR DISTRIBUTION IN A HUMAN HEAD IN THE PROXIMITY OF A CELLULAR PHONE FOR AN EXPOSURE ASSESSMENT FOR AN EPIDEMIOLOGICAL STUDY. K. Wake¹, S. Watanabe¹, M. Taki². ¹National Inst of Information and Communications Tech, Koganei, Tokyo, Japan; ²Tokyo Metropolitan Univ, Hachioji, Tokyo, Japan.
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UNCERTAINTY ASSESSMENT OF SAR BASED ON THE THERMAL MEASUREMENT INSIDE IMMATURE RAT PHANTOMS IN THE PROXIMITY OF AN 8-SHAPED LOOP ANTENNA EXCITED AT 1.5 GHZ BAND. H. Kawai, K. Wake, S. Watanabe. National Inst of Information and Communications Tech, Koganei-shi, Tokyo, Japan.
- P-A-27**
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- P-B-28**
UNCERTAINTIES DUE TO THE ELECTRICAL PROPERTIES OF THE TISSUE-EQUIVALENT LIQUID IN SAR-PROBE CALIBRATION. L. Hamada¹, J. Ryu², S. Watanabe¹, T. Iwasaki². ¹National Inst of Information and Communications Tech, Koganei, Tokyo, Japan; ²Univ of Electro-Communications, Chofu, Tokyo, Japan.
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ASSESSMENT OF THE SAR IN THE SAM HEAD PHANTOM FOR A PMR446 RADIO HELD IN FOUR TYPICAL POSITIONS CLOSE TO THE HEAD. G. Vermeeren, L. Martens. Ghent Univ, Dept of Information Tech, Ghent, Belgium.
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OUTPUT POWER DISTRIBUTION OF 3G WCDMA MOBILE PHONES BASED ON NETWORK MEASUREMENTS. T. Persson¹, C. Törnevik¹, L. Larsson². ¹Ericsson Research, Ericsson AB, Stockholm, Sweden; ²TeliaSonera Mobile Networks AB, Karlstad, Sweden.
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AVERAGING METHODS FOR RELIABLE MEASUREMENTS OF THE ELECTROMAGNETIC FIELD STRENGTH IN THE VICINITY OF MOBILE COMMUNICATIONS BASE STATIONS. P. Preiner, R. Überbacher, G. Neubauer. ARC Seibersdorf Research GmbH, Seibersdorf, Austria.
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NUMERICAL SIMULATIONS FOR EVALUATION OF INDUCED CURRENT DENSITIES IN WELDERS. S. Cecil¹, J. Gonter¹, I. Ruiz¹, K. Lamedschwandner¹, W. Giczi¹, G. Rabitsch², H. Molla-Djafari², G. Neubauer¹. ¹ARC Seibersdorf research GmbH, Seibersdorf, Austria; ²Austrian Workers Compensation Board, Vienna, Austria.

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FDTD ASSESSMENT OF HUMAN EXPOSURE NEAR ELECTRONIC ARTICLE SURVEILLANCE DEVICES. R. Villar, A. Martín, M. Martínez-Búrdalo. Instituto de Física Aplicada. Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Spain.

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PERSONAL DOSIMETRY OF RF EXPOSURE. J. Wiart, A. Gati, E. Larcheveque, M.F. Wong. France Telecom RD, Issy Les Moulineaux, France.

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EVALUATION OF THE SPECIFIC ABSORPTION RATE INDUCED BY THE HANDSET CLOSE TO THE BODY. A. Pradier¹, O. Colas¹, P. Celin¹, T. Sarrebourg¹, D. Lautru², M.F. Wong¹, V. Fouad Hanna², J. Wiart¹. ¹France Telecom RD, Issy les Moulineaux, France; ²LISIF, Paris, France.

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ANALYSIS OF ON SITE SAR EVALUATION BY MEASUREMENT OF INCIDENT FIELD. F. Saidi¹, D. Lautru², A. Gati¹, M.F. Wong¹, E. Nicolas³, F. Jacquin³, J. Wiart¹, V. Fouad Hanna². ¹France Telecom R&D, Issy Moulineaux, France; ²Univ Paris, Paris, France; ³Telediffusion de France, Paris, France.

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APPLICATION OF THREE DIMENSIONAL VISUALIZATION OF THE TEMPERATURE DISTRIBUTION TO ASSESSMENT OF LOCALIZED EXPOSURE TO MICROWAVES FOR IN VIVO STUDY. Y. Suzuki¹, M. Baba¹, M. Taki¹, A. Ushiyama², H. Masuda², K. Fukunaga³, K. Wake³, S. Watanabe³. ¹Dept of Electrical and Electronic Eng, Tokyo Metropolitan Univ, Hachioji, Tokyo, Japan; ²Dept of Env Health, National Inst of Public Health, Wako, Saitama, Japan; ³National Inst of Information and Communications Tech, Koganei, Tokyo, Japan.

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SPATIALLY AVERAGED SAR RELATIONSHIP TO THERMAL RESPONSE DUE TO RF ENERGY DEPOSITION IN LOSSY HETEROGENEOUS MEDIUM. G. Bit-Babik¹, A. Faraone¹, C-K Chou¹, M. Swicord¹, V. Anderson². ¹Motorola Corporate EME Research Lab, Fort Lauderdale, FL, USA; ²THL Australia Pty Ltd., Frankston, VIC, Australia.

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ADONIS THE FRENCH RESEARCH PROGRAMME ON DOSIMETRIC ANALYSIS OF THIRD GENERATION MOBILE PHONES. J. Wiart¹, C. Grangeat², C. Person³. ¹France Telecom, Velizy, France; ²Alcatel, Velizy, France; ³ENST Bretagne, Brest, France.

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DEVELOPMENT OF WHOLE-BODY CHILD MODELS BASED ON JAPANESE BODY DIMENSIONS DATA. T. Nagaoka¹, E. Kunieda², S. Watanabe¹. ¹National Inst of Information and Communications Tech, Koganei, Tokyo, Japan; ²Keio Univ, Shinjuku-ku, Tokyo, Japan.

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EXPOSURE OF CELL MONO-LAYERS AND HIPPOCAMPAL SLICE CULTURES INSIDE RADIAL WAVEGUIDES. A. Bitz¹, T. Reinhardt¹, A. El Ouardi¹, J. Streckert¹, H. Franke², J. Zimmer Rasmussen³, V. Hansen¹. ¹Chair of Electromagnetic Theory, Univ of Wuppertal, Wuppertal, Germany; ²Dept of Neurology, Univ of Münster, Münster, Germany; ³Anatomy and Neurobiology, Univ of Southern Denmark, Odense, Denmark.

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CAMPARAISON BETWEEN SIMULATION AND MEASUREMENT FOR FIELDS ASSESSEMENT. A. Gati, M.F. Wong, J. Wiart. France Telecom R&D, Issy les moulineaux, France.

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INVESTIGATION OF TEMPERATURE INCREASE IN HUMAN EYES DUE TO DIFFERENT RF SOURCES. V. De Santis¹, C. Buccella², M. Feliziani². ¹IEEE Student Member, L'Aquila, Italy; ²IEEE Senior Member, L'Aquila, Italy.

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CALCULATION OF INDUCED CURRENT IN RAT MODEL EXPOSED TO 20KHZ MAGNETIC FIELDS. J-K. Byun, A-K. Lee, J-I. Choi. Radio Tech Group, Electronics and Telecommunications Research Inst, Daejeon, Korea.

EPIDEMIOLOGY

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SURVEY OF RESIDENTIAL POWER FREQUENCY MAGNETIC FIELD EXPOSURE AMONG CHILDREN IN TAIWAN. G. Mezei¹, C-Y Li², F-C Sung³, M. Silva¹, P-C Chen⁴, L-M Chen². ¹Electric Power Research Inst, Palo Alto, California, USA; ²Dept of Public Health, Fu-Jen Catholic Univ, Hsinchuang, Taipei Hsien, Taiwan; ³Graduate Inst of Environmental Health, China Medical Univ, Taichung, Taiwan; ⁴Graduate Institution of Environmental Health, National Taiwan Univ, Taipei, Taiwan.

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RELATION BETWEEN STATIONARY AND DYNAMIC MAGNETIC FIELD EXPOSURE OF PEOPLE LIVING CLOSE TO POWER LINES. G. Decat. VITO, Mol, Antwerpen, Belgium.

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COMPARISON OF VARIOUS METHODS OF MEASURING DISTANCES BETWEEN RESIDENCES AND 154 KV POWER LINES. S-C Hong¹, Y-S Kim², S-H Chio², N. Kim³. ¹Dept of Occupational Health & Safety Eng, College of Biomedical Science & Eng, Inje Univ, Oebang-dong, Gyeongnam, Korea; ²Inst of Env and Industrial Medicine, College of Medicine,

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CASE-CONTROL STUDIES ON HUMAN EFFECTS OF WIRELESS PHONE RF IN KOREA. J.W. Choi. HEE CHAN PARK, Seoul, Sungbuk-gu, Republic of Korea.

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EVALUATION OF MOBILE PHONE HANDSET EXPOSURES USING A PORTABLE PHANTOM SYSTEM. M. Shum¹, M.A. Kelsh¹, M. McNeely¹, A.R. Sheppard², N. Kuster³, E. Lau¹. ¹Exponent, Inc., Menlo Park, CA, USA; ²Asher Sheppard Consulting, Redlands, CA, USA; ³Foundation of Research on Information Technologies in Society (IT²IS), Zurich, Switzerland.

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CORRELATION OF POWER CONTROL SETTING TO RF POWER LEVELS FROM SOFTWARE MODIFIED PHONES. M. Shum¹, M.A. Kelsh¹, E. Lau¹, A.R. Sheppard², N. Kuster³, M. McNeely¹. ¹Exponent, Inc., Menlo Park, CA, USA; ²Asher Sheppard Consulting, Redlands, CA, USA; ³Foundation of Research on Information Technologies in Society (IT²IS), Zurich, Switzerland.

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EVALUATION OF POWER OUTPUT OF SOFTWARE MODIFIED MOBILE PHONES AS A FUNCTION OF TIME OF DAY. M.A. Kelsh¹, M. Shum¹, T. Fordyce¹, A.R. Sheppard². ¹Exponent, Inc., Menlo Park, CA, USA; ²Asher Sheppard Consulting, Redlands, CA, USA.

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QUALITATIVE AND QUANTITATIVE ANALYSIS OF RADIOFREQUENCY ELECTRO-MAGNETIC FIELDS AT INDOOR ENVIRONMENTS. N. Kim¹, J. Choi¹, S. Park¹, S. Hong², Y. Kim³, S. Choi³. ¹Dept of Computer & Communication Eng, Chungbuk National Univ, Cheongju, Heungduk-gu, Chungbuk, Korea; ²Dept of Occup Health & Safety Eng, College of Biomedical Science & Eng, Inje Univ, Oebang-dong, Gyeongnam, Korea; ³Inst of Env and Industrial Medicine, College of Medicine, Hanyang Univ, Seoul, Seongdong-gu, Korea.

HIGH-THROUGHPUT SCREENING

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DEVELOPMENT OF METHODOLOGY FOR 2-DIMENSIONAL GEL-BASED ANALYSIS OF PROTEIN MARKERS IN RAT PLASMA. C.Z. Cerna¹, N.J. Millenbaugh², S.L. Mouton³, R. Sypniewska², P.A. Mason⁴. ¹Conceptual MindWorks, Inc., San Antonio, Texas, USA; ²Advanced Information Eng Services, San Antonio, Texas, USA; ³Northrop Grumman, San Antonio, Texas, USA; ⁴Air Force Research Laboratory, Human Effectiveness Directorate, Directed Energy Bioeffects Division, Radio Frequency Radiation Branch, Brooks City-Base, Texas, USA.

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OPTIMIZATION OF TECHNIQUES FOR LIQUID CHROMATOGRAPHY/MASS SPECTROMETRY/MASS SPECTROMETRY (LC/MS/MS) IDENTIFICATION OF RAT PLASMA PROTEINS FROM 2-DIMENSIONAL GELS. S.L. Mouton¹, N.J. Millenbaugh², R. Sypniewska², C.Z. Cerna³, P.A. Mason⁴. ¹Northrop Grumman, San Antonio, Texas, USA; ²Advanced Information Eng Services, San Antonio, Texas, USA; ³Conceptual MindWorks, Inc., San Antonio, Texas, USA; ⁴Air Force Research Laboratory, Human Effectiveness Directorate, Directed Energy Bioeffects Division, Radio Frequency Radiation Branch, San Antonio, Texas, USA.

HUMAN STUDIES

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THE EFFECT OF EXTREMELY LOW FREQUENCY PULSING MAGNETIC FIELD ON TOOTH PAIN THRESHOLD. R.A. Hovhannisyan, S.N. Ayrapetyan. ¹UNESCO Chair-Life Sciences International Postgraduate Educational Center, Yerevan, Armenia.

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PROPOSAL TO STUDY BIOPHYSICAL EFFECTS OF A 60 HZ MAGNETIC FIELD: FROM NEURO-PHYSIOLOGY TO MOTOR BEHAVIORS. A. Legros¹, A. Beuter², D. Goulet³, M. Plante³, F.S. Prato¹, A.W. Thomas¹. ¹Bioelectromagnetics, Lawson Health Research Inst, St. Joseph's Health Care, London, Ontario, Canada; The Dept of Medical Biophysics, Schulich School of Medicine and Dentistry, Univ of Western Ontario, London, Ontario, Canada; ²Institut de Cognitique, Universite Victor Segalen Bordeaux 2, Bordeaux, Aquitaine, France; ³Hydro-Quebec, Montreal, Quebec, Canada.

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LOW-FREQUENCY ELECTROMAGNETIC FIELD PROMOTE THE EXPRESSION OF DIFFERENTIATION MARKERS IN PLURIPOTENT HUMAN MESENCHYMAL STEM CELLS (hMSC). S. Grimaldi. Istituto Di Neurobiologia & Medicina Molecolare, INHH, Rome, Italy.

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A PROPOSAL TO EVALUATE, IN HUMANS, POTENTIAL MICRONUCLEI FORMATION IN LYMPHOCYTES AFTER ACUTE EXPOSURE TO EXTREMELY LOW FREQUENCY ELECTRO-MAGNETIC RADIATION. G.C. Albert¹, A.W. Thomas², F.S. Prato², Vijayalaxmi³. ¹Bioelectromagnetics, Lawson Health Research Inst, St. Joseph's Health Care, London, Ontario, Canada; ²Dept of Medical Biophysics, Univ of Western Ontario; Imaging and Nuclear Medicine, and Bioelectromagnetics, Lawson Health Research Inst, St. Joseph's Health Care, London, Ontario, Canada; ³Dept of Radiation Oncology, Univ of Texas Health Science Centre, San Antonio, Texas, USA.

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THE EFFECTS OF EVENING MOBILE PHONE USE ON SUBSEQUENT MELATONIN PRODUCTION. S.P. Loughran¹, A.W. Wood¹, C. Stough². ¹Brain Sciences Inst and Australian Centre for Radiofrequency Bioeffects Research (ACRBR), Swinburne Univ of Tech, Hawthorn, Victoria,

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Australia; ²Brain Sciences Inst, Swinburne Univ of Tech, Hawthorn, Victoria, Australia.

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EFFECTS OF INFORMATION AND 50 HZ MAGNETIC FIELDS ON COGNITIVE PERFORMANCE AND THE REPORT OF SYMPTOMS. S. Nevelsteen¹, J. Legros², M. Crasson¹. ¹Psychoneuroendocrinology Unit, Liege, Belgium; ²Clinical Endocrinology, Liege, Belgium.

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IS HUMAN HAND FINE MOTOR CONTROL AFFECTED BY A PULSED 200 μ T MAGNETIC FIELD? J.E. McPherson, H. Marshall, K. Schonberger, J. Long, A. Legros, F.S. Prato, A.W. Thomas. The Dept of Medical Biophysics, Schulich School of Medicine and Dentistry, Univ of Western Ontario; Bioelectromagnetics, Lawson Health Research Inst, St. Joseph's Health Care, London, Ontario, Canada.

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EXPOSURE ASSESSMENT AND HEALTH EFFECTS OF 60HZ MAGNETIC FIELD GENERATED BY ELECTRIC BLANKET DURING THE SLEEP PERIOD. Y. Kim¹, S. Choi¹, S. Hong². ¹Inst of Environmental and Industrial Medicine, College of Medicine, Hanyang Univ, Seoul, Seongdong-gu, Korea; ²Dept of Occupational Health & Safety Eng, College of Biomedical Science & Eng, Inje Univ, Gimhae, Oebang-dong, Gimhae, Gyeongnam, Korea.

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STUDIES ON HYPERSENSITIVITY TO NON-THERMAL RADIOFREQUENCY ELECTROMAGNETIC FIELD IN JAPAN SECOND REPORT. Y. Ugawa¹, Y. Mizuno¹, Y. Terao¹, M. Nishikawa¹, T. Okano¹, H. Yano¹, K. Shirasawa¹, T. Furubayashi¹, A. Ushiyama², H. Masuda², S. Soukejima², M. Taki³, K. Wake⁴, P. Pongpaibool⁴, S. Watanabe⁴, E. Maruyama⁵, C. Ohkubo⁶. ¹Dept of Neurology, The Univ of Tokyo, Tokyo, Japan; ²National Inst of Public Health, Saitama, Japan; ³Tokyo Metropolitan Univ, Tokyo, Japan; ⁴National Inst of Information and Comm Technology, Tokyo, Japan; ⁵Kobe Univ, Kobe, Japan; ⁶World Health Organization, Geneva, Switzerland.

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EFFECTS OF MOBILE PHONE-LIKE RF EXPOSURE ON SUBJECTS WITH ATOPIC DERMATITIS. A. Johansson¹, J. Wilén¹, B. Stenberg², S. Forsgren³, M. Sandström¹. ¹National Inst for Working Life, Umeå, Sweden; ²Dept of Public Health and Clinical Medicine, Umeå Univ, Umeå, Sweden; ³Dept of Integrative Medical Biology, Section for Anatomy, Umeå Univ, Umeå, Sweden.

IN VITRO STUDIES – CELLULAR

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EXPOSURE TO INTERMEDIATE FREQUENCY MAGNETIC FIELDS DID NOT HAVE CO-MUTAGENIC POTENTIAL IN MICROBIAL MUTATION TEST. S. Nakasono¹, M. Ikehata², T. Shigemitsu¹, T. Negishi¹. ¹EMF Environment Sector, Environmental Science Research Laboratory, CRIEPI, Abiko, Chiba, Japan; ²Environmental BioTech Laboratory, RTRI, Kokubunji, Tokyo, Japan.

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INTERFERENTIAL CURRENT: FROM THE FPR RECEPTOR TO THE SECOND MESSENGER CYCLIC AMP. W. Sontag. Kernforschungszentrum Karlsruhe, Institut for Biological Interfaces, Karlsruhe, Germany.

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EFFECTS OF PULSED 2.45 GHZ ELECTROMAGNETIC FIELDS ON MICRONUCLEUS FORMATION AND HPRT MUTATIONS IN CHO-K1 CELLS. S. Koyama², T. Sakurai¹, Y. Komatsubara¹, Y. Suzuki³, M. Taki³, J. Miyakoshi¹. ¹Dept of Radiological Tech, School of Health Sciences, Faculty of Medicine, Hirosaki Univ, Hirosaki, Aomori, Japan; ²Dept of Interdisciplinary Env, Grad School of Human and Env Studies, Kyoto Univ, Kyoto, Kyoto, Japan; ³Dept of Electrical Eng, Grad School of Eng, Tokyo Metropolitan Univ, Hachioji, Tokyo, Japan.

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THE EFFECTS OF EXTREMELY LOW FREQUENCY MAGNETIC FIELDS ON CYTOKINE-MEDIATED β -CELL DYSFUNCTION. T. Sakurai¹, M. Yoshimoto¹, S. Koyama², Y. Komatsubara¹, J. Miyakoshi¹. ¹Dept of Radiological Tech, School of Health Sciences, Faculty of Medicine, Hirosaki Univ, Hirosaki, Aomori, Japan; ²Dept of Interdisciplinary Environment, Graduate School of Human and Environmental Studies, Kyoto Univ, Kyoto, Kyoto, Japan.

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EFFECTS OF A TIME-VARYING MAGNETIC FIELD ON INTRACELLULAR ORGANELLS AND ACTIN FILAMENTS OF BOVINE ADRENAL CHROMAFFIN CELLS. T. Ikehara¹, H. Sasaki², Y. Minami², H. Yamaguchi⁴, K. Hosokawa¹, K. Kawazoe², M. Kitamura¹, M. Shono¹, K. Yoshizaki¹, Y. Kinouchi³, H. Miyamoto¹. ¹Dept of Physiology, Inst of Health BioSciences, The Univ Graduate School, Tokushima, Japan; ²Dept of Pharmacy, Tokushima Univ Hospital, Tokushima, Japan; ³Dept of Electrical and Electronic Eng, Faculty of Eng, The Univ of Tokushima, Tokushima, Japan; ⁴Dept of Env Physiology, Faculty of Human Life Sciences, Tokushima Bunri Univ, Tokushima, Japan.

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NO EFFECT OF 2.1425 GHZ BAND W-CDMA MODULATED RADIOFREQUENCY FIELDS ON NEOPLASTIC TRANSFORMATION IN BALB/3T3 CELLS. H. Hirose¹, N. Sakuma¹, N. Kaji¹, T. Suhara¹, M. Sekijima¹, T. Nojima², J. Miyakoshi³. ¹Mitsubishi Chemical Safety Inst Ltd., Kamisu, Ibaraki, Japan; ²Hokkaido Univ, Sapporo, Hokkaido, Japan; ³Hirosaki Univ, Hirosaki, Aomori, Japan.

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900 MHZ RADIOFREQUENCY RADIATION INDUCES CASPASE-3 ACTIVATION IN PROLIFERATING HUMAN PERIPHERAL BLOOD LYMPHOCYTES. R. Palumbo¹, F. Brescia², D. Capasso¹, A. Sannino², M. Sarti², R. Pinto³, F. Bersani⁴, M.R. Scarfi². ¹CNR-Inst of Biostructure and Bioimaging, Naples, Italy; ²CNR-Inst for Electromagnetic Sensing of Env, Naples, Italy; ³ENEA, Casaccia - Section of Toxicology and Biomedical Sciences, Rome, Italy; ⁴Dept. of Physics, Univ of Bologna, Bologna, Italy.

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- P-B-72**
EFFECT OF GSM-900 RFR ON HSP EXPRESSION IN BRAIN IMMUNE CELLS. F. Poullietier de Gannes, S. Sanchez, N. Schlinger, E. Haro, G. Ruffie, B. Billaudel, I. Lagroye, B. Veyret. PIOM/Bioelectromagnetics Laboratory, CNRS/EPHE, Pessac, France.
- P-A-73**
ACUTE EXPOSURE TO 900 MHZ CW RADIOFREQUENCY DOES NOT AFFECT Ba²⁺ CURRENTS THROUGH VOLTAGE-GATED CALCIUM CHANNELS IN RAT CORTICAL NEURONS. D. Platano¹, P. Mesirca², F. Bersani³, M. Liberti⁴, A. Paffi⁴, M. Pellegrino⁴, G. Aicardi⁵. ¹Dept of Human and General Physiology, Univ of Bologna, Bologna, Italy; ²Dept of Physics, Univ of Bologna, Bologna, Italy; ³Dept of Physics, Univ of Bologna and InterDept Centre "Luigi Galvani" for the study of Biophysics, Bioinformatics and Biocomplexity, Univ of Bologna, Bologna, Italy; ⁴ICEmB at Dept of Elec Eng, Univ of Rome "La Sapienza", Rome, Italy; ⁵Dept of Human and General Physiology, Univ of Bologna and InterDept Centre "Luigi Galvani" for the study of Biophysics, Bioinformatics and Biocomplexity, Univ of Bologna, Bologna, Italy.
- P-B-74**
DIFFERENTIAL GENE EXPRESSION AT THE RF-EMF EXPOSED BBB IN VITRO. H. Franke¹, A. Bitz², J. Streckert², V. Hansen², P. Young¹. ¹Univ Hospital Münster, Dept. Neurology, Münster, Germany; ²Univ of Wuppertal, Chair of Electromagnetic Theory, Wuppertal, Germany.
- P-A-75**
EFFECT OF HIGH-FREQUENCY ELECTROMAGNETIC FIELDS WITH A WIDE RANGE OF SARS ON CHROMOSOMAL ABERRATIONS IN MURINE M5S CELLS. Y. Komatsubara¹, H. Hirose², T. Sakurai¹, S. Koyama³, Y. Suzuki⁴, M. Taki⁴, J. Miyakoshi¹. ¹Dept of Radiological Tech, School of Health Sciences, Faculty of Medicine, Hirosaki Univ, Hirosaki, Aomori, Japan; ²Laboratory of Radiation Biology, Kyoto Univ, Kyoto, Kyoto, Japan; ³Dept of Interdisciplinary Env, Graduate School of Human and Env Studies, Kyoto, Kyoto, Japan; ⁴Dept of Electrical Eng, Graduate School of Eng, Tokyo Metropolitan Univ, Hachioji, Tokyo, Japan.
- P-B-76**
INDUCTION OF ANEUPLOIDY FOLLOWING 0.1THZ CW RADIATION. A. Korenstein-Ilan¹, P. Hasin¹, A. Barbul¹, A. Eliran², A. Gover². ¹Dept of physiology and Pharmacology, Faculty of Medicine, Tel-Aviv, Israel; ²Dept of Electrical Eng – Physical Electronics, Faculty of Eng, Tel-Aviv, Israel.
- P-A-77 STUDENT**
COMBINATION EFFECTS OF THE REPETITIVE PULSED MAGNETIC STIMULATION AND THE ANTICANCER AGENT ON HUMAN LEUKEMIA CELL LINE TCC-S. S. Yamaguchi¹, Y. Sato², M. Sekino¹, S. Ueno¹. ¹Dept of Biomedical Eng, Graduate School of Medicine, Univ of Tokyo, Tokyo, Japan; ²Dept of Pathology, Research Inst International Research Center of Japan, Tokyo, Japan.
- P-B-78**
EXPERIMENTAL INVESTIGATIONS ON THE BIOLOGICAL FREE RADICAL PRODUCTION IN HUMAN FIBROBLASTS DUE TO MICROWAVE EXPOSURE. T. Hikage, T. Manabe, M. Endo, T. Nojima. Hokkaido Univ, Sapporo, Hokkaido, Japan.
- P-A-79 STUDENT**
POTENTIAL GENOTOXIC EFFECTS OF MOBILE PHONE SIGNALS ON THE BRAIN: IN VITRO AND IN VIVO STUDIES. S. Sanchez, F. Poullietier de Gannes, G. Ruffie, I. Lagroye, B. Billaudel, B. Veyret. PIOM Laboratory, Pessac, Aquitaine, France.
- IN VITRO STUDIES - SUB-CELLULAR**
- P-B-80 STUDENT**
EXPOSURES AT A FREQUENCY OF WLAN 4-G DO NOT ALTER GENE EXPRESSION OF CHAPERONE PROTEINS. M. Zhadobov¹, R. Sauleau¹, D. Thouroude¹, D. Michel², Y. Le Dreaun². ¹Inst of Electronics and Telecommunications of Rennes (IETR), Univ of Rennes, Rennes, Brittany, France; ²Information et Programmation Cellulaire (IPC), Univ of Rennes, Rennes, Brittany, France.
- P-A-81**
ESTIMATION OF BIOLOGICAL EFFECTS BY EXPOSURE TO COMPLEX MAGNETIC FIELDS WITH STATIC AND 50HZ COMPONENTS. M. Ikehata¹, Y. Suzuki², S. Yoshie¹, M. Taki², T. Koana³. ¹Railway Technical Research Inst, Kokubunji, Tokyo, Japan; ²Tokyo Metropolitan Univ, Hachioji, Tokyo, Japan; ³Central Research Inst of Electric Power Industry, Komae, Tokyo, Japan.
- IN VITRO STUDIES - TISSUE AND ORGAN**
- P-B-82 STUDENT**
HYDROGEN PEROXIDE AS A MESSENGER FOR NON-THERMAL EFFECT OF MICROWAVES ON HEART CONTRACTILITY. H.V. Hayrapetyan, A.S. Grigoryan, S.N. Ayrapetyan. UNESCO Chair-Life Sciences International Postgraduate Educational Center, Yerevan, Armenia.
- P-A-83**
COMPLEX PERMITTIVITY MEASUREMENT OF BLOOD BY PROBE METHOD. M. Hanazawa¹, H. Wakatsuchi², S. Watanabe¹, M. Kouzai³, A. Nishikata³, O. Hashimoto². ¹National Inst of Information and Communications Tech, Koganei-shi, Tokyo, Japan; ²Aoyama Gakuin Univ, Sagamihara-shi, Kanagawa, Japan; ³Tokyo Inst of Tech, Meguro-ku, Tokyo, Japan.
- P-B-84 STUDENT**
COMPLEX PERMITTIVITY MEASUREMENT OF SOME BIOLOGICAL MATERIALS AT 33-50GHZ BY DIELECTRIC TUBE METHOD. M. Kouzai¹, A. Nishikata¹, H. Wakatsuchi², K. Fukunaga³, M. Hanazawa³, S. Watanabe³. ¹CRADLE, Tokyo Inst of Tech, Meguro-ku, Tokyo, Japan; ²Aoyama Gakuin Univ, Sagamihara, Kanagawa, Japan; ³EMC Center, National Inst of Information and Communications Tech, Koganei, Tokyo, Japan.

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P-A-85 STUDENT

CHARACTERIZATION OF A WOUND HEALING MODEL OF RECONSTRUCTED HUMAN SKIN PRODUCED BY TISSUE ENGINEERING: A FIRST STEP TOWARDS THE STUDY OF THE MECHANISMS BY WHICH THE ELECTRIC FIELDS INFLUENCE THE REEPITHELIALISATION. J. Dubé¹, V. Moulin¹, D. Goulet³, M. Bourdages⁴, F.A. Auger¹, L. Germain². ¹Laboratoire dâ€™Organogénèse Expérimentale, Hospital du Saint-Sacrement du CHA, Québec, Québec, Canada; ²Dept of Surgery, Faculty of Medicine, Laval Univ, Québec, Québec, Canada; ³Hydro-Québec/Transénergie, Montréal, Québec, Canada; ⁴Institut de Recherche Hydro-Québec (IREQ), Varennes, Québec, Canada.

P-B-86 STUDENT

MICROARRAY ANALYSIS IN ELF MF AND NGF DIFFERENTIATED RAT CHROMAFFIN CELLS. T.N. Olivares-Bañuelos¹, A. Gonzalez², R. Drucker-Colin¹. ¹Dept de Neurociencias, Instituto de Fisiología Celular. Univ Nacional Autónoma de México, Mexico City, Mexico City, Mexico; ²Dept de Bioquímica, Instituto de Fisiología Celular. Universidad Nacional Autónoma de México, Mexico City, Mexico City, Mexico.

IN VIVO STUDIES – ANIMAL

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GENE EXPRESSION IN MAMMARY GLAND TISSUE OF FEMALE FISCHER 344 RATS AFTER MAGNETIC FIELD EXPOSURE (50 Hz, 100 µT) FOR 2 WEEKS. M. Fedrowitz, W. Loscher. Dept of Pharmacology, Toxicology, and Pharmacy. Univ of Veterinary Medicine, Hannover, Germany.

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EFFECTS OF 915 MHz EXPOSURE ON NEURONAL VIABILITY. J.S. McQuade¹, J.R. Cowart¹, S.J. Allen², M. Tarango², P.A. Mason¹. ¹Air Force Research Laboratory, Human Effectiveness Directorate, Directed Energy Bioeffects Division, Brooks City-Base, TX, USA; ²General Dynamics, Advanced Information Eng Services, Brooks City-Base, TX, USA.

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LONG TERM EXPOSURE OF SPRAGUE DAWLEY RATS TO 20 KHZ TRIANGULAR MAGNETIC FIELD. H-J Lee¹, S-H Kim², S-Y Choi¹, Y-M Gimm³, J-K Pack⁴, H-D Choi⁵, Y-S Lee¹. ¹Korea Inst of Radiological and Medical Science, Seoul, Korea; ²Chonnam National Univ, Kwangju, Korea; ³Dankook Univ, Seoul, Korea; ⁴Choongnam National Univ, Daejon, Korea; ⁵ETRI, Daejon, Korea.

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LACK OF PROMOTION OF MAMMARY, LUNG AND SKIN TUMORIGENESIS BY 20 KHZ TRIANGULAR MAGNETIC FIELDS. H-J Lee¹, Y-M Gimm², J-K Pack³, H-D Choi⁴, J-I Choi⁴, Y-S Lee¹. ¹Korea Inst of Radiological and Medical Science, Seoul, Korea; ²Dankook Univ, Seoul, Korea; ³Choongnam Nat'l Univ, Daejon, Korea; ⁴ETRI, Daejon, Korea.

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THE GERMAN MOBILE TELE-COMMUNICATION RESEARCH PROGRAMME. G. Ziegelberger. Federal Office for Radiation Protection, Neuherberg/Oberschleissheim, Bavaria, Germany.

P-B-92

ASSESSMENT OF THE THERMAL INSULT ON AQUEOUS HUMOR CONVENTION UTILIZING. M. Kojima¹, Y. Suzuki², Y. Yamashiro¹, M. Hanazawa³, A. Hirata⁴, S. Watanabe³, M. Taki², H. Sasaki¹, K. Sasaki¹. ¹Division of Vision Research for Env Health, Medical Research Inst, Kanazawa Medical Univ, Kahoku-gun, Ishikawa-ken, Japan; ²Dept of Electrical Eng, Tokyo Metropolitan Univ, Hachioji-shi, Tokyo, Japan; ³National Inst of Information and Comm Tech Inc., Administrative Agency, Koganei-shi, Tokyo, Japan; ⁴Dept of Computer Science and Eng, Nagoya Inst of Tech, Nagoya-shi, Aichi-ken, Japan.

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EFFECTS OF GSM-MODULATED 900 MHZ EMF EXPOSURE ON BONE MARROW CELL DIFFERENTIATION IN VIVO. F. Nasta, M.G. Prisco, R. Pinto, G.A. Lovisololo, C. Marino, Claudio Pioli. ENEA, Unit of BioTech, Section of Toxicology and Biomedicine, Rome, Italy.

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BREATH ANALYSIS APPLICATION IN PROLONGED MILLIMETER WAVE (MMW) EXPOSURE. R. Sypniewska¹, N.J. Millenbaugh¹, C.Z. Cerna², K.S. Mylacraine¹, G. Lantrip¹, T. Risby³, M. Davis⁴, P.A. Mason⁵. ¹Advanced Information Eng Services, San Antonio, Texas, USA; ²Conceptual Mindworks, Inc., San Antonio, Texas, USA; ³The Johns Hopkins Univ, Baltimore, Maryland, USA; ⁴Oklahoma State Univ, Stillwater, Oklahoma, USA; ⁵Air Force Research Laboratory, Human Effectiveness Directorate, Directed Energy Bioeffects Division, Radio Frequency Radiation Branch, Brooks City-Base, Texas, USA.

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NO TRANSIENT EFFECTS OF RF-EMF EXPOSURE ON THE BRAIN MICROCIRCULATION IN EITHER JUVENILE OR ADULT RATS. H Masuda¹, A Ushiyama¹, M Takahashi¹, S. Hirota¹, S. Tanaka², H. Kawai², K. Wake², S. Watanabe², M. Taki³, C. Ohkubo⁴. ¹Dept of Env Health, National Inst of Public Health., Saitama, Japan; ²Biomedical EMC Group, EMC Center, Wireless Comm Dept, National Inst of Information and Comm Tech, Tokyo, Japan; ³Dept of Electrical Eng, Graduate School of Eng, Tokyo Metropolitan Univ., Tokyo, Japan; ⁴RAD, World Health Organization., Geneva, Switzerland.

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EVALUATION OF HOUSEKEEPING GENES IN RAT SKIN FOR USE IN REAL-TIME QUANTITATIVE REVERSE TRANSCRIPTION OF POLYMERASE CHAIN REACTION (Q-RT-PCR). C.C. Roth¹, R. Sypniewska¹, P.A. Mason², N.J. Millenbaugh¹. ¹Advanced Information Eng Services, San Antonio, Texas, USA; ²Air Force Research Laboratory, Human Effectiveness Directorate, Directed Energy Bioeffects Div, Radio Frequency Radiation Branch, Brooks City-Base, Texas, USA.

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EFFECTS OF UMTS RELATED EMISSIONS ON AUDITORY SYSTEM: EVALUATION OF DISTORTION PRODUCT OTOACOUSTIC EMISSIONS IN EXPOSED RATS (EMF-NEAR PROJECT). P. Galloni¹, M. Parazzini², R. Pinto¹, M. Piscitelli¹, C. Franzoni², P. Ravazzani², C. Marino¹. ¹ENEA, Rome, Italy; ²ISIB, CNR, Milan, Italy.

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UMTS-MODULATED ELECTROMAGNETIC FIELDS DO NOT AFFECT HEMATOLOGICAL OR HISTOLOGICAL PARAMETERS IN LYMPHOMA-PRONE MICE. A.M. Sommer¹, A. Lerchl¹, A.K. Bitz², J. Streckert², V.W. Hansen². ¹School of Eng and Science, International Univ Bremen, Bremen, Germany; ²Chair of Electromagnetic Theory, Univ of Wuppertal, Wuppertal, Germany.

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EFFECTS OF rTMS SIGNALS APPLIED ON THE RAT BRAIN POTENTIAL GENOTOXICITY AND MECHANISM OF AN ANTIDEPRESSANT EFFECT. R. Charlet de Sauvage, I. Lagroye, B. Billaudel, B. Veyret. PIOM ENSCPB, Pessac, Gironde, France.

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EXPOSURE TO EXTREMELY LOW FREQUENCY ELECTROMAGNETIC FIELDS MODIFIED LOCOMOTOR CIRCADIAN RHYTHM OF RATS. V. Inclán-Rubio¹, F. Estrada-Rojo¹, E. Ruiz-Hernández², D. Elías-Viñas², L. Verdugo-Díaz¹. ¹Departamento de Fisiología, Facultad de Medicina, UNAM, México, D.F., Mexico; ²Dept de Ingeniería Eléctrica, Sección de Bioingeniería, CINVESTAV, México, D.F., Mexico.

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NERVE EXCITATION UNDER STRONG STATIC MAGNETIC FIELDS. M. Sekino¹, H. Tatsuoka², Y. Eguchi¹, S. Ueno¹. ¹Dept of Biomedical Eng, Graduate School of Medicine, Univ of Tokyo, Tokyo, Japan; ²Dept of Medical System Eng, Faculty of Eng, Chiba Univ, Chiba, Japan.

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INFRADIAN RHYTHMICITY OF PHYSIOLOGICAL PROCESSES IN RATS WITH DIFFERENT MOBILE ACTIVITY IN OPEN FIELD UNDER INFLUENCE OF WEAK VARIABLE MAGNETIC FIELD OF EXTREMELY LOW FREQUENCY. N.A. Temuryants, V.S. Martynuk, V. Minko, E. Nagaeva, E.N. Chuyan. Tavrida National V.I. Vernadsky Univ, Simferopol., Crimea, Ukraine.

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EXPRESSION OF THE IMMEDIATE EARLY GENE, C-FOS, IN FETAL AND ADULT MOUSE BRAIN AFTER GSM-LIKE RF EXPOSURE. T. Kuchel, J. Finnie, P. Blumberg, J. Manavis. Inst of Medical & Vet Science, Adelaide, South Australia, Australia.

INSTRUMENTATION AND METHODOLOGY

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MW PHITOSANITARY APPLICATIONS WOOD PACKAGING TREATMENT. B. Bisceglia¹, R. De Leo², N. Diaferia³.

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COMPARISON OF MAGNETIC FIELD METERS USED FOR ELF EXPOSURE MEASUREMENT. I. Magne¹, A. Azoulay², J. Lambrozo³, M. Souques³. ¹EDF R&D, Moret sur Loing, France; ²Supélec, Gif sur Yvette, France; ³EDF Gaz De France - SEM, Paris, France.

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MT2-WORKEN - EMF EXPOSURE RELATED RISK IN THE WORKING ENVIRONMENT: STATE OF ART REPORT. M. Sandström¹, G. Decat², R. Falsaperla³, K. Gryz⁴, K. Hansson Mild¹, M. Hietanen⁶, J. Karpowicz⁴, P. Rossi³. ¹Natl Inst for Working Living, NIWL, Umeå, Sweden; ²Flemish Inst for Tech Research, VITO, Belgium; ³Natl Inst for Occupational Safety and Prevention, ISPESL, Italy; ⁴Central Inst for Labour Protection-National Research Inst, CIOP-PIB, Poland; ⁵Life Science Center, Örebro Univ, Örebro, Sweden; ⁶Finnish Inst of Occupational Health, FIOH, Finland.

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AN ENVIRONMENT FOR STUDYING EFFECTS OF ELECTROMAGNETIC ISOLATION OR SPECIFIC ELECTROMAGNETIC FIELDS ON NOCICEPTION IN MICE. L.D. Keenlside¹, F.S. Prato³, A.W. Thomas². ¹Bioelectromagnetics, Lawson Health Research Inst, St. Joseph's Health Care, London, Ontario, Canada; ²Dept of Medical Biophysics, Univ of Western Ontario, London, Ontario, Canada; ³Imaging & Nuclear Medicine, St. Joseph's Health Care, London, Ontario, Canada.

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MEASUREMENTS AND RAY TRACING SIMULATIONS AT UMTS AND WI-FI FREQUENCIES IN INDOOR SETTINGS. M. Barbiroli², M.L. Calabrese¹, G. Falciasacca², R. Massa¹. ¹Univ of Naples Federico II - DIET, Naples, Italy; ²Univ of Bologna - DEIS, Bologna, Italy.

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SAR MEASUREMENT TIME REDUCING VIA OPTIMIZATION ALGORITHMS AND INTERPOLATION SCHEME. J. Luc, E. Le Brusq, Y. Toutain. Antennessa, Plouzane, France.

MECHANISMS OF INTERACTION-BIOLOGICAL TRANSDUCTION

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SELF FIELD THEORY: MATHEMATICAL PERSPECTIVE. A.H.J. Fleming. Biophotonics Research Inst, Hightett, VIC, Australia.

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DOES DIRECTION OF INDUCED ELECTRIC FIELD OR CURRENT PROVIDE A TEST. B. Greenebaum¹, B.F. Sisken². ¹Dept of Physics, Univ of Wisconsin-Parkside, Kenosha, WI, USA; ²Center for Biomedical Eng, Univ of Kentucky, Lexington, KY, USA.

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EFFECTS OF PRE-SOWING MAGNETIC TREATMENTS OF LETTUCE SEEDS ON THE GROWTH AND YIELD OF PLANTS. A. De Souza¹, L.M. Gonzalez¹, F. Gilart², L. Sueiro¹, L. Licea¹. ¹Agricultural Research Inst "Jorge Dimitrov", Bayamo, Granma, Cuba; ²National Center for Applied Electromagnetism, Santiago of Cuba, Santiago of Cuba, Cuba.

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EXPERIMENTAL TEST OF PROPOSED MECHANISM FOR DETECTION OF WEAK ELECTRIC FIELDS. O.V. Kolomytkin¹, F.X. Hart², S. Dunn¹, D. Kolomytkin³, A.A. Marino¹. ¹LSU Health Sciences Center, Shreveport, LA, USA; ²Univ of the South, Sewanee, TN, USA; ³Moscow State Univ, Moscow, Russia.

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SELF-FIELD THEORY: A MATHEMATICS FOR BIO-ELECTROMAGNETICS. A.H.J. Fleming¹, E. Bauer². ¹Biophotonics Research Inst, Highett, VIC, Australia; ²Biophotonics Research Inst, Malden, MA, USA.

P-B-114 STUDENT

SIGNAL PROCESSING TECHNIQUES APPLIED TO IONIC CURRENTS DATA FOR THE EXTRACTION OF INFORMATION ON ELECTRO-MAGNETIC COUPLING. M. Pellegrino, A. Paffi, M. Liberti, F. Apollonio, G. D'Inzeo. ICEmB at Dept of Electronic Eng, "La Sapienza", Univ of Rome, Rome, RM, Italy.

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NITROSATION OF DISTILLED WATER BY 50HZ ELECTRIC FIELDS. R.W. Coghill, C. Conners, E.M. Welch. Coghill Research Laboratories, Lower Race, Torfaen, Wales, UK.

MECHANISMS OF INTERACTION-PHYSICAL TRANSDUCTION

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CUMULATIVE NITROSATION EFFECTS OF 50HZ ELECTRIC FIELDS ON DOUBLE DISTILLED WATER. R.W. Coghill, C. Conners, E.M. Welch. Coghill Research Laboratories, Pontypool, Torfaen, Wales.

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LARMOR PRECESSION, THERMAL NOISE AND MECHANISMS FOR WEAK AC AND DC MAGNETIC FIELD BIOEFFECTS. D.J. Muehsam, A.A. Pilla. Mount Sinai School of Medicine, Oakland, NJ, USA.

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DO MAGNETIC RF-FIELDS POSE A THREAT TO HUMAN HEALTH? J.B. Pedersen¹, M.J. Hansen¹, N.N. Lukzen², A.B. Doktorov². ¹Univ of southern Denmark, Odense M, Denmark; ²Sibirian Branch of the Russian Academy of Sciences, Novosibirsk, Russia.

P-B-146 STUDENT

THE DEPENDENCE OF ELF EMF EFFECT ON PHYSICO-CHEMICAL PROPERTIES OF WATER ON THE LEVEL OF BACKGROUND RADIATION. A.A. Tsaturyan,

S.N. Ayrapetyan. UNESCO Chair-Life Sciences International Postgraduate Educational Center, Yerevan, Armenia.

MEDICAL APPLICATION STUDIES

P-A-119 STUDENT

NUCLEAR MAGNETIC RESONANCE RELAXATION STUDY OF PARAMAGNETIC LIPOSOMAL NANOCAPSULES AND IN VIVO EFFECTS IN MICE. H. Nakagawa, H. Kotani, S. Yamaguchi, M. Sekino, S. Ueno. Dept of Biomedical Eng, Graduate School of Medicine, The Univ of Tokyo, Bunkyo-ku, Tokyo, Japan.

P-B-120

WIRELESS TECH IN HEALTHCARE FOR MEDICAL DATA TRANSPORT. J.J. Morrissey. Motorola, Plantation, Florida, USA.

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EFFECT OF A BACKPLATE ON FIELD STRENGTHS AT THE POLEFACE AND NEAR TO A STATIC NEODYMIUM/IRON/BORON MAGNET. C.M.A. Conners, R.W. Coghill. Coghill Research Labs, Pontypool, Gwent, Wales.

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POLOXAMERS ARE ABLE TO REFOLD DENATURED PROTEINS. R.C. Lee, F. Despa, P. Thiyagarajan, D. Mustafi. Univ of Chicago, Chicago, IL, USA.

PULSED ELECTRIC FIELDS

P-A-123 STUDENT

THE INFLUENCE OF PULSED MAGNETIC FIELD ON MAGNETOTACTIC BACTERIA AMB-1. L. Zhao¹, W. Yang¹, X. Wang², W. Pan¹, T. Song¹. ¹Inst of Electrical Eng, Chinese Academy of Sciences, Beijing, Haidian district, China; ²UNESCO Chinese Center of Marine BioTech, Ocean Univ of China, Qingdao, China.

P-B-124 STUDENT

EFFECTS OF PULSED ELECTROMAGNETIC FIELDS (PEMFS) ON THE CELLULAR ACTIVITY OF OSTEOBLAST-LIKE CELLS. C.F. Martino¹, J. Qi¹, D. Belchenko¹, V. Ferguson¹, S. Preiss². ¹Univ of Colorado at Boulder, Boulder, CO, USA; ²Univ of Colorado Health Science Center, Aurora, CO, USA.

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ELECTRICAL TRANSFER FUNCTIONS ASSOCIATED WITH NORMAL AND MALIGNANT WHITE CELLS. H.L. Gerber, S. Li, C.C. Tseng. Purdue Univ Calumet, Hammond, Indiana, USA.

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NANOSECOND PULSED ELECTRIC FIELDS ENHANCE IL-2 EXPRESSION IN JURKAT CELLS. X. Zhang¹, X. Hong¹, G. Chen¹, S.M. Wang², K. Schoenbach³, C.Q. Zhou¹, H.L. Gerber¹, C.C. Tseng¹. ¹Purdue Univ Calumet, Hammond, Indiana, USA; ²Northwestern Univ, Evanston, Illinois, USA; ³Old Dominion Univ, Norfolk, Virginia, USA.

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ANALYSIS OF CELL DISTRIBUTION IN A CULTURE MEDIUM WITHIN A RF EXPOSURE SYSTEM. M. Khalid, A. Bassi, H.L. Gerber, C.C. Tseng, C.Q. Zhou. Purdue Univ Calumet, Hammond, Indiana, USA.

RISK, SAFETY STANDARDS AND PUBLIC POLICY

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STRUCTURED SUMMARIES OF ALL EXPERIMENTAL MEDICAL AND BIOLOGICAL STUDIES ON MOBILE COMMUNICATION FREELY AVAILABLE AT THE "EMF-PORTAL". S. Driessen, R. Wienert, D. Dechent, F. Klubertz, J. Silny. Research Center for Bioelectromagnetic Interaction (femu), RWTH Aachen Univ, Aachen, Germany.

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EMF-PORTAL OFFERS UP-TO-DATE INFORMATION ON PUBLISHED SCIENTIFIC STUDIES. R. Wienert, F. Klubertz, S. Driessen, D. Dechent, J. Silny. Research Center for Bioelectromagnetic Interaction (femu), RWTH Aachen Univ, Aachen, Germany.

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EFFECTS OF THIRTY-MINUTE MOBILE PHONE USE ON VISUO-MOTOR REACTION TIME. T. Okano², Y. Terao¹, T. Furubayashi¹, Y. Mizuno¹, K. Shirasawa¹, Y. Ugawa¹. ¹Dept of Neurology, Graduate School of Medicine, Univ of Tokyo, Tokyo, Japan; ²Dept of Laboratory Medicine, Graduate School of Medicine, Univ of Tokyo, Tokyo, Japan.

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RADIOFREQUENCY SAFETY LIMITS AND TEMPERATURE THRESHOLDS FOR HEALTH EFFECTS. J.A. Elder. Motorola, Ft. Lauderdale, FL, USA.

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APPLICATION OF "PRECAUTION" IN MOBILE PHONE-ANTENNA-SITING? E. Marsalek. PMI-Plattform Mobilfunk-Initiativen, Klosterneuburg-Kierling, Austria.

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DETERMINING THE INFLUENCE OF ADULT CRANIAL THICKNESS ON COMPLIANCE WITH RADIOFREQUENCY EXPOSURE LIMITS. M. Sauren, R.J. McKenzie, R.L. McIntosh. Australian Centre of Radiofrequency Bioeffects Research, Melbourne, Victoria, Australia.

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THE BBEMG WEB SITE: A COMMUNICATION TOOL FOR SCIENTISTS AND THE PUBLIC. M. Crasson¹, M. Ledent¹, J. Legros². ¹Psychoneuroendocrinology Unit, Liege, Belgium; ²Clinical Endocrinology Dept, Liege, Belgium.

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B-FIELD EXPOSURE FROM INDUCTION COOKING APPLIANCES. C. Boutry¹, U. Lott², A. Romann², N. Kuster². ¹ETH Zurich, Integrated Systems Laboratory (IIS), Zurich, Zurich, Switzerland; ²IT'IS Foundation for Research on Information Technologies in Society, Zurich, Zurich, Switzerland.

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TISSUE HEATING RESULTING FROM WHOLE-BODY EXPOSURE AT 450 MHZ: MODELING RESULTS AND COMPARISON WITH EXPERIMENTS. D.A. Nelson¹, S. Charbonnel¹, A.R. Curran², E.A. Marttila², J.M. Ziriak³. ¹Michigan Tech Univ, Houghton, Michigan, USA; ²ThermoAnalytics, Inc., Calumet, Michigan, USA; ³US Naval Health Research Center Detachment, Brooks City Base, Texas, USA.

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SELF FIELD THEORY: MATHEMATICAL OUTLINE. A.H.J. Fleming. Biophotonics Research Inst, Highett, VIC, Australia

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ROBUST, HIGHLY DETAILED MEDICAL IMAGE SEGMENTATION. E.Z. Neufeld¹, T. Samaras², N. Chavannes¹, N. Kuster¹. ¹IT'IS Foundation for Research on Information Technologies in Society / ETH Zurich, Zurich, Switzerland; ²Dept of Physics, Aristotle Univ of Thessaloniki, Thessaloniki, Greece.

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VIRTUAL PROTOTYPING AND FAILURE SYNTHESIS: RF DESIGN AND OPTIMIZATION OF MOBILE DEVICE TERMINALS. N. Chavannes³, P. Futter¹, G. Hong Ng², R. Tay², N. Kuster³. ¹Schmid & Partner Eng AG (SPEAG), Zurich, Switzerland; ²Motorola Electronics Private Limited, Singapore Design Centre, Singapore; ³Foundation for Research on Information Technologies in Society (IT'IS) - ETH Zurich, Zurich, Switzerland.

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NEW CONFORMAL PEC FDTD MODEL AND ITS APPLICABILITY IN BIOELECTROMAGNETICS. S. Benkler¹, N. Chavannes², N. Kuster¹. ¹Foundation for Research on Information Technologies in Society (IT'IS) - ETH Zurich, Zurich, Switzerland; ²Schmid & Partner Eng AG (SPEAG), Zurich, Switzerland.

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THREE DIMENSIONAL CONFORMAL ALTERNATING DIRECTION IMPLICIT FINITE-DIFFERENCE TIME-DOMAIN SOLVER (C-ADI-FDTD). S. Benkler¹, N. Chavannes², N. Kuster¹. ¹Foundation for Research on Information Technologies in Society (IT'IS) - ETH Zurich, Zurich, Switzerland; ²Schmid & Partner Eng AG (SPEAG), Zurich, Switzerland.

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THE MOLECULAR FIELD OF STRUCTURED WATER AFFECTS THE STABILITY OF A MEMBRANE PORE. F. Despa, R.C. Lee. Univ of Chicago, Chicago, IL, USA.

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