Plenary Session – Keynote Address:

Energy Efficiency: The Up to Date Argument for Selling Electrotechnologies in Europe
R. Belmans

Energy And Energy Efficiency Session

European Regulations and Directives on Energy Efficiency, Renewables and CO2 Trading, And Impact on Electricity
V. de Janeiro

Energy Savings in the Chemical Industry
K. Van Reusel

Choosing Radio Frequency or Microwave in Industry
M. Willert-Porada

Dielectric Heating versus Other Electroheat Technologies – Some Case Studies
C. Debard

Round Table: The Impact of Electrotechnologies and Their Applications to Energy Efficiency and Manufacturing Economics
J. Cresko- Moderator

Materials Processing – Ceramics

Microwave Autogeneous Firing of Heavy Clay Products
G. Tayler, Paul Williams

Microwave Sintering of Abrasion Resistant Alumina Liner Tiles
G. Swaminathan, A.B. Datta, L.N. Satapathy

The Effect of Heating Rate, Stirring and Power Delivery on Silicalite Microwave Synthesis
G.A. Thompsett and W.C. Conner

Microwave Assisted Reactive Sintering of Zirconium Oxynitrides
M. Panneerselvan and M. Willert-Porada

Microwave-Induced Combustion Synthesis of Ni-Cr Ferrite Nanopowders
P. Sarubo Jr., L. Costa, A.C. Gama, R.H. Kiminami

Factors Effecting the Crystallization of Zeolites Synthesized by Microwave Heating
B.M. Panzarella, W.C. Conner, G. Thompsett

Synergetic Effects of Microwave-LASER Hybridization and Its Application to Ceramics Sintering
R. Peelamedu, R. Roy, A. Badzian, S. Copley

Reactive Oxide Braze Joining of Ceramic Tubes with A High-Power 83GHz Millimeter Wave Beam System
R.W. Bruce, R.L. Bruce, D. Lewis, III, S.H. Gold, M. Kahn, A.K. Kinkead
A.W. Filiflet and M.A. Imam

Microwave Synthesis of Lamp Phosphors
Y. Fang, D.K. Agrawal
Microwaves for Sol-Gel Synthesis of Boron Carbide (B4C)
M. Rodriguez, U. Ortiz, O. Kharissova, J. Aguilar, Z. Valdez

Microwave Drilling of Ceramics
E. Jerby, O. Aktushev, V. Dikhtyar, O. Harpaz, P. Livshits

Microwave Sintering of High Thermal Conductivity AlN
C-Y Hseih, C-N Lin and S-L Chung

Novel Processing of Nanostructured Ceramics Using Microwaves
B. Vaidhyanathan, J.G.P. Binner

Microwave-Induced Mass Transport Enhancement in Nano-Porous Aluminum Oxide Membranes
C.J. Bonifas, A. Marconett, J. Perry, J.H. Booske, R.F. Cooper

Precision Microgear Burnout and Firing with Microwaves
S.M. Allen, C.C. Chang, A.M. Morales, H.S. Shulman

The Effect of Addition of ZrO2 as Secondary Particulates in Microwave Sintering Of Silicon Nitride at 2.45GHz
S. Chockalingam, D.A. Earl, H.S. Shulman

Microwave Activated Combustion Synthesis of Intermetallics in the Co-Si System
J.R. Jokisaari, S. Bhaduri, S.B. Bhaduri

A Novel Microwave Assisted Process to Synthesize Phosphate Nanowhiskers
S. Jalota, A.C. Tas, S.B. Bhaduri

Microwave Brazing, A Novel Method for Joining Ceramics to Metals
R. Radtke, J. Geddes

Materials Processing – Polymers

Microwave/RF Methods for Detection and Drying of Residual Water in Polymers
M. Mehdizadeh

Microwave Assisted Blow Molding of Polyethylene-Terephthalate (PET) Bottles
L.Estel, P.Lebaudy, A. Ledoux, C. Bonnet, M. Delmotte

Industrial Composite Curing with the 2.45GHz HEPHAISTOS System
L.Feher, V. Nuss, T. Seitz, M. Thumm

Investigation on the Effect of Microwave Field on the Theological Behavior of Polyaniline: Polyvinylalchol Blends
R. Thomas, H. John, R. Joseph, K.T. Mathew

Microwave and Conventional Mechnaical & Thermal Analysis of the Reactions in Epoxy Vinyl Ester Resings
R. Gunaratne, R.J. Day

A Novel Microwave-Assisted Injection Moulding of Polymers
O. Alothman, R.J. Day

The Dielectric Properties and the Construction of Polymer-Based Mico Fluidic Devices Using Microwaves
A. Yussuf, W.K. Tam, M. Malcmann, N. Tran

Microwave Welding of Thermoplastic Rods Without Any Conductive Material
N. Tran, W.K. Tam, M. Malcmann
Microwave and Conventional Calorimetry of Unsaturated Polyester and Urethane Acrylate Resins and Their Blends
R.J. Day, S Petchuay

Microwave Techniques for the Preparation of Polymer Foams
A.E.S. Clarke, A. Nesbitt, R.J. Day, G.Sims, Z. Wu

Dielectric Properties of Crosslinking Epoxy Resins at 2.45GHz
L. Zong, S. Zhou, R. Sun, L. Kempel, M.C. Hawley

Microwave Assisted Synthesis, Crosslinking and Processing of Polymeric Materials
D. Bogdal, J. Pielichowski

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The Influence of Microwaves on the Leaching Kinetics of Sulphide Minerals
M. Al-Harahsheh, S. Kingman, N. Hankins, C. Somerfield, S. Bowater

Glass Matrix Composites with Lead Zirconate Titanate Particles Processed by Microwave Heating
P. Veronesi, C. Leonelli, V. Cannillo, E.J. Minay, A.R. Boccaccini

Latest Developments in the Microwave Processing of Mineral Ores
S. Bradshaw, D. Jones, L. Groves, S. Kingman, E. Lester, D. Whittles

High Temperature Processing of Powders Using Millimeter-Waves
G. Link, M. Hauser-Fulberg, M. Janek, R. Nuesch, S. Takayama, M. Thumm, A. Weisenburger

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New Apparatus for Toxic Waste and Sludge Treatment and for Plasma Processing of Fume by Microwave Power Technique
M. Melandri, M. Contarini, A. Breccia

Unpollutant Microwave Incineration of Medical Waste with High Risk of Contamination
D. Niculae, D. Iordache

Sealing Waste Tubes by Microwave Welding Tube
O. Aktushev, E. Jerby

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C. Dodds, E. Lester, S. Kingman, S. Bradshaw

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D. Shorrock, G. Bond, D.F. Lee

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Microwave Sintering of Metal Powder Compacts
S. Takayama, G. Link, M. Sato, M. Thumm

Study of Microwave Sintering of Multilayer Ceramic Capacitors
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Ultra-Rapid Millimeter-Wave Annealing of Silicon Wafers
Y.V. Bykov, A.G. Eremeev, I.V. Plotnikov, K.I. Rybakov, V.E. Semenov

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K. Annapoorani, B. Vaidhyanathan, J.G.P. Binner, R. Raghavendra

Millisecond Microwave Annealing of Ultra-Shallow Boron Doped Silicon
K. Thompson, J.H. Booske, J. Lohr, L Ives, Y. Gorelov, K. Kajiwara, M. Alvarez

Athermal, Photonic Effects on Boron Diffusion and Activation in Silicon During Microwave Rapid Thermal Annealing
C.J. Bonifas, K. Thomson, J.H. Booske, R.F. Cooper, M. Alvarez, A. Marconnet

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Drying Macademia Nuts by Hot Air Combined with Microwaves as Compared to The Conventional Hot Air Process
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Microwave Preconditioning to Accelerate Solar Drying of Timber
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- Two Novel Sources of Variable Frequency Microwave Energy
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- Activation System for Electrochemical Automotive Power Devices
  F. Bauer, R. Tap, M. Willert-Porada

- Ultra-High Temperature Microwave Sintering – Furnace and Process Design
  M. Willert-Porada, T. Gerdes, R. Borchert, H.S. Park

- New Gyro-Device System for Millimeter-Wave Processing of Materials
  Y. Bykov, G. Denisov, A. Eremeev, M. Glyavin, V. Kholoptsev, A. Kuftin, S. Samsonov, V. Zapevelov

- AutowaveR Laboratory Microwave Packed-Bed Reactor
  M.L. Tracey, D. Parent

- Control of Continuous Microwave Drying Process of Peanuts Using Remote Temperature Measurement
  D. Boldar, T.H. Sanders, S.A. Hale

- Health, Regulatory and Equipment Safety Issues Related to Industrial Microwave Applications
  J.F. Gerling

- Application Considerations of High Power Microwave Pressure/Vacuum Windows
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- Stimulating Microwave and RF Application Innovation
  S. Bowater, D. Clunie, S. Kingman

- Microwave Equipment Manufacturers Viewpoint of Equipment Economics
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- Can Microwave-Assisted Reactions and Processes be Qualified and Validated?
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- Aspects of Propane Oxidation at Perovskite Catalysts in Multimode Microwave Oven
  H. Will, P. Scholz, B. Ondruschka, W. Burckhardt

- New Flax Yarn Cross-Linked with Citric Acid by Thermal Treatment or By Microwave Irradiation
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"Greener" Chemical Synthesis Using Microwaves
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Evidence for the Microwave Effect During the Hybrid Sintering of ZnO
J. Binner, J. Wang, B. Vaidhyanathan

Treatment of Residuary Acids by Microwaves
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Development of NiZnFe2O4 with Ultra-Low Dielectric Constant Value Ferrites by Multimode Microwave Sintering
R. Peelamedu, P. Yadoji, D. Agrawal, R. Roy

Synthesis of Monodispersed Iron Oxide Particles in a Large-Scale Microwave Reactor
J-Y Hwang, S. Shi, Z. Xu, K.W. Peterson

Acceleration of Microwave Irradiation on the Melting of Fluoride
B. Li, Z. Huang, J.Y. Hwang, S. Qu, S. Shi, Z. Xu

Melting and Processing of Silicon by Microwave Heating
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S. O. Nelson

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Studies on the Dielectric Behavior of Polypyrrole and its Semi-Interpenetrating Networks with Poly (Vinyl Chloride) in the Microwave Field
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Microwave Calorimetry Coupled with Dielectric Measurements and Near Infrared Spectroscopy: A Powerful Tool for Understanding Microwave-Induced Reactions
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Express Monitoring of Dielectric Liquid’s Permittivity
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Dielectric Properties of a Timber Sample Under Pressure of Several Bars
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A Model of Millimeter-Wave Heating of Silicon Powder Compacts

Microwave Heating of Conductive Materials
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Modeling of Reactive Oxide Braze Joining of Ceramic Tubes with a Millimeter-Wave Beam Source
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The Microwave Drill Thermal- Runaway Analysis
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Microwave Gas-Discharge Ultraviolet Lamp

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S. Kumar, D. Kumar, K. Cherian, M. Dougherty, D. Tasch

P/M Sintering by Atmospheric Microwave Plasma
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Processing Metallic Materials

An Introduction to Microwave Processing of Metals
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Study of Microwave Sintering of Porcelain Bodies
R.R. Menezes, P.M. Souto, E. Fagury-Neto, R.H. Kiminami

Microwave Combustion Synthesis of Lead Lanthanum Titanate (Pb, La)TiO3
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Wireless Microwave Based Moisture Sensors for Hardwood Drying Kilns
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Microwave Annealing and Stress Relief of Metals
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Development of NiZnFe2O4 with Ultra-Low Dielectric Constant Value Ferrites by Multimode Microwave Sintering
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Seaweed Processing Using Industrial Single Mode Cavity Microwave Heating
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Microwave Synthesis of Aligned Carbon Nanotubes in a Single Mode Cavity
  J. Cheng, D. Agrawal, Y. Zhang

Microwave Induced Magnetic Decrystallization
  S. Copley, R. Peelamedu, D. Agrawal, R. Roy

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