ISBN(softcover): 978-3-908158-01-1 ISBN(eBook): 978-3-03813-093-2

Table of Contents

SECTION B - CORROSION AND TRIBOLOGY BEHAVIOUR OF CERAMICS

B-1 – Friction and Wear

B-2 – Oxidation and Corrosion

SECTION C - CERAMIC POWDERS SYNTHESIS AND PROCESSING

C-1 – Powder Synthesis and Characterization

C-2 – Powder Dispersion and Related Processes

C-3 – Shape Forming, Compaction Mechanisms and Green Body Characterization

D-2 – Pressureless Sintering, Reaction Bonding Liquid Phase Sintering, Vitrification

D-3 – Microwave and Stress Enhanced Sintering, and Sintering of Mechanically Activated Powders

SECTION E - NON CONVENTIONAL ROUTES TO CERAMICS

E-1 – Soft Solution Processing

E-2 – Near-Net-Shape Techniques, Polymer Pyrolysis

E-3 – Hybrid Materials

E-4 – Porous Ceramics

E-5 – Microwave Processing

E-6 – Microgravitational Processing, Shock Synthesis and Dynamic Compaction, Superplasticity and Superplastic Forming

E-7 – Other Emerging Processing Directions and Materials

SPECIAL SESSION E-11 – SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS OF CERAMICS

Endorsed by: SHS-AS – International Association on Self-Propagating High-Temperature Synthesis Member of the Institute of Topical Associations of the World Academy of Ceramics

E-11.1 – SHS of Ceramic Powders

E-11.2 – SHS of Ceramic Materials and Items

SPECIAL SESSION E-12 – LAYERED AND FUNCTIONALLY GRADED MATERIALS

Endorsed by: LGM-AS – International Association for Layered and Graded Materials Member of the Institute of Topical Associations of the World Academy of Ceramics

E-12.1 – Processing of Graded and Laminated Materials

E-12.2 – Properties of Graded and Laminated Materials

E-12.3 – FGM Materials & Applications

SECTION F - SURFACE ENGINEERING WITH CERAMICS

F-1 – Surface Processing Science

F-1.1 Fundamental Process Studies

F-1.2 Thin and Thick Films Deposition, Surface Treatments

F-2 – Properties of Engineered Surfaces

F-3 – Use and Performance

SECTION G - CERAMIC COMPOSITES

G-1 – Processing and Fabrication

G-2 – Property and Behaviour

G-3 – Application Engineering

SECTION H - CERAMIC JOINING

H-1 – Wetting and Interfaces

H-2 – Joint Processing

SECTION I – STRUCTURAL CERAMIC

I-1 – Mechanical Behaviour

I-2 – Materials Processing

I-3 – Application Engineering

SECTION J - CERAMICS FOR ELECTROCHEMICAL, CHEMICAL, ENERGY, ENVIRONMENTAL AND REFRACTORY APPLICATIONS

J-1 – Ion Selective, Humidity and Gas Sensors

J-2 – Ceramics for Energy Conversion and Storage

J-2.1 Fuel Cells

J-2.2 Supercapacitors, Hydrogen Generation

J-3 – Ceramics in Nuclear Fusion and Fission

J-3.1 Fusion and Fission Reactor Materials and Components

J-3.2 Radiation Damage and Radiation Effects

J-3.3 Ceramics in Radioactive Waste Management

J-4 – Electrically Conductive and Porous Membranes

J-5 – Catalysts and Catalysts Supports

J-5.1 Ceramic Catalysts

J-5.2 Catalysts Supports

J-6 – Environmental Issues in the Ceramics Industry

J-6.1 Environmental Saving Materials and Technologies

J-6.2 Recycling Wastes and By-Products

J-7 – Refractory Ceramics

J-7.1 Progress in Manufacturing

J-7.2 Materials and Products Characterization and Application

SECTION K - ELECTRICAL, MAGNETIC AND OPTICAL CERAMICS

K-1 – Dielectrics and Microwave Materials

K-2 – Thermistors, Varistors

K-3 – Ferroelectrics and Relaxors

K-4 – Piezoelectrics and Pyroelectrics

K-5 – Magnetic Ceramics

K-6 – Optic, Electro-Optic and Magneto-Optic Materials and Devices

K-7 – Integrated Electronics, Optics, Electro-Optics and Magneto-Optics

LATE PAPERS

SECTION F - SURFACE ENGINEERING WITH CERAMICS

F-1 – Surface Processing Science

F-1.2 Thin and Thick Films Deposition, Surface Treatments

SPECIAL SESSION E-11 – SELF-PROPAGATING HIGH-TEMPERATURE SYNTHESIS OF CERAMICS

E-11.1 SHS of Ceramic Powders

Session G: