

Europe and Africa Regional Meeting of Polymer Processing Society (PPS2017)

Dresden, Germany
26 - 29 June 2017

Volume 1 of 2

ISBN: 978-1-5108-5487-1

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2017) by Polymer Processing Society
All rights reserved.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact Polymer Processing Society
at the address below.

Polymer Processing Society
810 E. 10th St.
Lawrence, KS 66044
USA

Phone: +1-800-627-0326
+1-785-865-9403
Fax: +1-785-843-6153

pps@allenpress.com

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

VOLUME 1

S01 – MIXING AND COMPOUNDING

| | |
|---|----|
| TOUGHENING IMPROVEMENT OF POLYAMIDE 6 WITH LOW MOLECULAR WEIGHT POLYETHYLENE | 1 |
| <i>Akira Ishigami, Takuya Konno, Kazuki Watanabe, Shotaro Nishitsuji, Masaru Ishikawa, Hiroshi Ito</i> | |
| ANALYSIS OF THE PROCESS BEHAVIOR OF CO-KNEADERS | 2 |
| <i>Johannes Rudloff, Matthias Wilhelm, Marieluise Lang, Peter Heidemeyer, Martin Bastian</i> | |
| NEW SCREW DESIGN INDUCED EXTENSIONAL FLOW FOR ENHANCEMENT OF CNT DISPERSION IN PP MATRIX THROUGH TWIN-SCREW EXTRUDER. | 7 |
| <i>Koki Matsumoto, Tatsuya Tanaka</i> | |
| REACTIVE COMPATIBILIZATION SCHEMES FOR HIGH SPEED TWIN SCREW EXTRUSION OF POLYMER BLENDS | 8 |
| <i>Margaret J Sobkowitz, Azadeh Farahanchi, Barbara Calderon</i> | |
| EFFECT OF BLENDING METHODS ON MECHANICAL PROPERTIES OF PS/TPU BLENDS | 9 |
| <i>Mohamadreza Mansourieh, Azizeh Javadi</i> | |
| PREPARATION BY MELT COMPOUNDING OF COMPOSITES REINFORCED BY NATURAL FIBERS: FROM BREAKAGE MECHANISMS TO PROCESS OPTIMIZATION | 10 |
| <i>Bruno Vergnes</i> | |
| MELT HOMOGENIZATION IN CO-ROTATING TWIN-SCREW EXTRUDERS: DESIGN OF A NOVEL KNEADING DISK | 11 |
| <i>Velichko Hristov</i> | |
| A NOVEL EXPERIMENTAL SETUP FOR CHARACTERIZATION OF DISPERSIVE MIXING IN SINGLE-SCREW EXTRUDERS | 12 |
| <i>Oguz Celik, Christian Bonten</i> | |
| EFFECT OF SURFACE MODIFICATION ON THERMAL PROPERTIES OF PARAFFIN/COPPER OXIDE NANOCOMPOSITE | 19 |
| <i>Mohamadmahdi Noori, Hosseinali Khonakdar, Hamed Azizi, Mehdi Ghaffari</i> | |
| UPCYCLING CONTAMINATED POST-INDUSTRIAL PP THROUGH COMPOUNDING: A DESIGN FROM RECYCLING CASE STUDY. | 24 |
| <i>Kim Ragaert, Sara Hubo, Laurens Delva, Maja Kuzmanovic, Lore Veelaert, Els Dubois</i> | |
| FRICITION CHARACTERISTICS IMPROVEMENT OF ABS FOR LOW SQUEAKING NOISES GENERATING INTERIOR AUTOMOTIVE PARTS | 25 |
| <i>Jareenuch Rojsatean, Patcharee Larpsuriyakul, Natcha Prakymoramas, Dumrong Thanomjit, Sanya Kaewket, Thawatchai Singsoom, Duangruthai Srinun</i> | |
| INVESTIGATION OF THE TEMPERATURE DEVELOPMENT WITHIN THE SOLID CONVEYING ZONE OF TWIN-SCREW EXTRUDER BASED ON THE DISCRETE ELEMENT METHOD (DEM) | 26 |
| <i>Kim Jacqueline Scharr, Volker Schöppner</i> | |
| MODIFIED POLYLACTIDE WITH IMPROVED PROPERTIES FOR EXTRUSION FOAMING | 27 |
| <i>Svenja Göttermann, Tobias Standau, Volker Altstädt, Christian Bonten</i> | |
| WATER ASSISTED EXTRUSION OF PA/SOUTH AFRICAN BENTONITE NANOCOMPOSITES: A PROCESS COST SAVING PERSPECTIVE | 32 |
| <i>Vincent Omondi Ojijo, Suprakas Sinha Ray, Manfred Scriba</i> | |
| CARDANOL DERIVATIVES AS EFFECTIVE PLASTICIZERS FOR POLYLACTIC ACID | 33 |
| <i>Antonio Greco, Francesca Ferrari</i> | |
| EXFOLIATION OF LAYERED ZIRCONIUM PHOSPHATE NANOPLATELETS BY MELT COMPOUNDING | 34 |
| <i>Lei Chen, Dazhi Sun, Jin Li</i> | |
| INTERACTION BETWEEN COOLANT, POLYAMIDE 6.6, GLASS FIBERS AND ADDITIVES | 35 |
| <i>Johannes Heyn, Christian Bonten, Silvia Kliem</i> | |
| GLYCEROL AS PLASTICIZER IN PVC | 40 |
| <i>Ronald Assumpção Righetti, Clodoaldo Lazareti, Baltus Cornelius Bonse</i> | |
| MECHANICAL PROPERTIES OF PLASTICIZED POLY (LACTIC ACID) WITH EPOXYDIZED SOYBEAN OIL | 41 |
| <i>Maryam Khaghanipour, Ali Badeli, Khosrow Khodabakhshi</i> | |
| THE INFLUENCE OF MIXING PARAMETERS ON THE PROPERTIES OF MICRON-SIZED BLAST FURNACE SLAG FILLED PP COMPOUNDS | 42 |
| <i>Abdelhamid Mostafa, Gernot Pacher, Thomas Lucyshyn, Clemens Holzer, Helmut Flachberger, Bertram Fritz</i> | |
| MELT PROCESSING OF CELLULOSE NANOFIBRILS AND AMPHIPHILIC COPOLYMER BASED BIO-COMPOSITES | 43 |
| <i>Abhijit Venkatesh, Johannes Thunberg, Antal Boldizar</i> | |
| SYNERGISTIC EFFECT OF FIRE RETARDANT ADDITIVES ON FIRE BEHAVIOR OF CROSS-LINKABLE POLYOLEFIN COMPOUNDS TOWARD INTUMESCENT COMPOUNDS | 44 |
| <i>Soraya Raboonpour, Shervin Ahmadi, Jalil Morshedian</i> | |

| | |
|---|----|
| INFLUENCE OF THE SCREW CONFIGURATION IN A CO-ROTATING TWIN SCREW EXTRUDER ON THE RHEOLOGICAL AND MECHANICAL PROPERTIES OF A TALC-REINFORCED POLYPROPYLENE | 45 |
| <i>Hans-Jürgen Luger, Thomas Unger, Erwin Mayrbürl, Jürgen Miethlinger</i> | |
| PBAT/THERMOPLASTIC STARCH BLEND:“CONCENTRATION OF OTPS & COMPARISON WITH TPS” | 46 |
| <i>Buse Nur Can, Guralp Ozkoc</i> | |
| REACTIVE EXTRUSION OF PA6 - DIFFERENT WAYS TO INCREASE THE VISCOSITY | 47 |
| <i>Johannes Benz, Christian Bonten</i> | |
| COMPOUNDING ANIONIC POLYMERIZED POLYAMIDE 6 USING TEREPHTHALIC ACID | 52 |
| <i>Benjamino Rocco Formisano, Christian Bonten</i> | |
| SAW DUST REINFORCED TOUGHENED POLYPROPYLENE (PP/EPDM/TALC): EFFECT OF PLASTICIZER INCORPORATION | 57 |
| <i>Gabriel Matheus Pinto, Baltus Cornelius Bonse</i> | |
| A STUDY ON THE OPTIMIZATION OF THERMAL CONDUCTIVITY OF HDPE USING MICRO- AND NANOSCALE FILLERS | 62 |
| <i>Sebastian Stieger, Gerald Berger, Markus Battisti, Walter Friesenbichler</i> | |
| EFFECT OF AMMONIUM AND AMINOSILANE MONOMORILLONITES ORGANO-CLAYS ON THE CURING KINETICS OF UNSATURATED POLYESTER (UP) RESIN NANOCOMPOSITES | 63 |
| <i>Maria Angeles Vargas</i> | |
| VARIATIONS IN RHEOLOGICAL PROPERTIES BY MELT REACTIVE MODIFICATION OF PET | 64 |
| <i>Saeed Dolatshah, Amir Ershad Langroudi, Shervin Ahmadi</i> | |
| RHEOLOGICAL AND MECHANICAL BEHAVIOR OF POLYETHYLENE FILLED WITH ESTONIAN OIL SHALE HEAT CARRIER RETORTING WASTE ASH | 65 |
| <i>Tii-Maaja Suld</i> | |
| CROSS-LINKED POLYETHYLENE (XLPE) AS FILLER IN HIGH-DENSITY POLYETHYLENE: EFFECT OF CONTENT AND PARTICLE SIZE | 66 |
| <i>Rodrigo Sousa Freitas, Baltus Cornelius Bonse</i> | |
| SYNTHESIS OF MMA/GMA GRAFT AND RANDOM COPOLYMERS BY MELT AND SOLUTION COPOLYMERIZATION | 70 |
| <i>Amirhossein Karimi, Hamid Garmabi, Azizeh Javadi, Mostafa Ahmadi</i> | |
| ANALYSIS OF DYNAMIC OSCILLATORY RHEOLOGICAL PROPERTIES OF PP/EVA/ORGANO-MODIFIED LDH TERNARY HYBRIDS BASED ON GENERALIZED NEWTONIAN FLUID AND GENERALIZED LINEAR VISCOELASTIC APPROACHES | 71 |
| <i>Hossein Ali Khonakdar Sangdehi</i> | |
| THERMAL AND DYNAMIC MECHANICAL PROPERTIES OF PP/EVA NANOCOMPOSITES CONTAINING ORGANO-MODIFIED LAYERED DOUBLE HYDROXIDES | 72 |
| <i>Hossein Ali Khonakdar Sangdehi</i> | |
| IN SITU RING-OPENING POLYMERIZATION OF LAUROLACTAM IN PRESENCE OF MWCNT TOWARD POLYAMIDE 12/MWCNT-NANOCOMPOSITES | 73 |
| <i>Shervin Ahmadi, Farzaneh Faridirad, Mohammad Barmar</i> | |
| RECYCLING CAST POLYAMIDE 6 USING A LUBRICANT | 74 |
| <i>Benjamino Rocco Formisano, Christian Bonten</i> | |
| INFLUENCE OF MODIFIED AND UNMODIFIED RICE HUSK ON MECHANICAL PROPERTIES OF POLY (LACTIC ACID) | 79 |
| <i>Maryam Khaghanipour, Khosrow Khodabakhshi</i> | |

S02 – POLYMER BLENDS AND ALLOYS

| | |
|---|----|
| RHEOLOGICAL AND MORPHOLOGICAL CORRELATIONS IN PP/EVA BLENDS CONTAINING NANOCCLAY IN PRESENCE OF A HALOGEN-FREE FLAME RETARDANT | 80 |
| <i>Hossein Ali Khonakdar, Udo Wagenknecht, Gert Heinrich</i> | |
| EFFICIENT HYDROSILYLATION REACTION IN POLYMER BLENDING: AN ORIGINAL APPROACH TO STRUCTURE PA12/PDMS BLENDS AT MULTISCALES | 81 |
| <i>Jingping Li, Philippe Cassagnau, Véronique Bounor-Legaré</i> | |
| MELT STRENGTHENING OF POLY (LACTIC ACID) AND ITS BLENDS: SHEAR AND ELONGATION RHEOLOGICAL INVESTIGATIONS FOR FORMING PROCESS | 82 |
| <i>Abderrahim Maazouz, Lamnawar Khalid</i> | |
| SPIN-CORRELATED CHARGE TRANSFER IN LOW-BAND-GAP COPOLYMER COMPOSITES | 83 |
| <i>Victor Krinichnyi, Evgenija Yudanova, Victor Bogatyrenko</i> | |
| DEVELOPMENT OF SHAPE MEMORY POLYMERS BASED ON TPU/ABS BLENDS CONTAINING MWCNT | 84 |
| <i>Farzaneh Memarian, Abdohossein Fereidoon, Hossein Ali Khonakdar, Morteza Ghorbanzadeh Ahangari</i> | |
| COMPATIBILIZATION OF PET-PE BLENDS FOR THE RECYCLING OF MULTILAYER PACKAGING FOILS | 85 |
| <i>Laurens Delva, Cédric Deceur, Nicolas Van Damme, Kim Ragaert</i> | |
| DEVELOPMENT OF HIGHLY-FILLED POLYMER COMPOUNDS FOR FUSED FILAMENT FABRICATION OF CERAMICS AND SOLVENT DEBINDING | 90 |
| <i>Santiago Cano, Joamin Gonzalez-Gutierrez, Janak Sapkota, Christian Kukla, Clemens Holzer</i> | |

| | |
|--|-----|
| INFLUENCE OF GLASS FLAKE NANOPARTICLES ON THERMAL AND DYNAMIC MECHANICAL PROPERTIES OF PP/EVA BLENDS: CORRELATION WITH MICROSTRUCTURE | 91 |
| <i>Maryam Otady, Maryam Solymani, Vahabodin Goodarzi</i> | |
| COMPATIBILIZATION EFFECT OF SILICA NANO PARTICLES ON RHEOLOGY, MORPHOLOGY AND MECHANICAL PROPERTIES OF IMMISCIBLE PA6/LDPE BLENDS | 92 |
| <i>Melika Malekmohammad</i> | |
| DEVELOPMENT OF PLA/PBAT AND PLA /PBSA BIOBLENDS: EFFECTS OF PROCESSING TYPE AND PLA CRYSTALLINITY ON MORPHOLOGY AND THERMOMECHANICAL PROPERTIES | 93 |
| <i>Hazal Oguz, Cisem Dogan, Deniz Kara, Zeynep Tutku Ozen, Didem Ovali, Mohammadreza Nofar</i> | |
| EXTRUDED BLENDS OF PLA AND PBAT: CORRELATION BETWEEN COM-POSITION AND FRACTURE BEHAVIOUR | 98 |
| <i>Vito Gigante, Maria Beatrice Coltelli, Patrizia Cinelli, Laura Aliotta, Ilaria Canesi, Andrea Lazzeri</i> | |
| DEVELOPMENT OF HIGHLY FUNCTIONAL BUTYL –ETHERIFIED STARCH/ POLY [(BUTYLENE SUCCINATE)-CO-ADIPATE] NANOCOMPOSITES USING REACTIVE EXTRUSION | 99 |
| <i>Lesego Tabea Maubane</i> | |
| STRUCTURE PROPERTIES RELATIONSHIPS OF PA6/EOR BLENDS | 100 |
| <i>Johannes Heyn, Christian Bonten</i> | |
| DEVELOPMENT OF A BLOCK COPOLYMER FOR IMPACT MODIFICATION OF POLYHYDROXYALKANOATE (PHB) | 105 |
| <i>Linda Goebel, Christian Bonten</i> | |
| THE INFLUENCE COMPOSITION ON THE PROPERTIES OF POLYETHYLENE BASED BLENDS | 110 |
| <i>Christoph Burgstaller, Thomas Uttendorfer, Wolfgang Stadlbauer</i> | |
| INVESTIGATION OF PLA-BIOPOLYMER BLENDS TO IMPROVE PROPERTIES | 111 |
| <i>Nikolaos Kassos, Adrian Kelly, Tim Gough, Andrew Gill</i> | |
| STRUCTURAL AND ELECTROCHEMICAL PROPERTIES OF PEO/PAN/GRAPHENE NANO-FIBROUS BLENDS | 112 |
| <i>Serveh Abdollahi, Morteza Ehsani, Jalil Morshedian, Hossein Ali Khonakdar</i> | |
| EFFECTS OF EPOXY-POSS NANOPARTICLES ON THE COMPATIBILITY OF PLA/PBAT BLENDS | 113 |
| <i>Nilay Tuccar Kilic, Buse Nur Can, Mehmet Kodal, Guralp Ozkoc</i> | |
| SHAPEMEMORY BEHAVIOR OF NANOCOMPOSITE BASED ON SBS/LLDPE/CNT | 114 |
| <i>Nazanin Kardan, Milad Mehranpour, Ismaeil Ghasemi</i> | |
| LAMELLAR ASSEMBLY OF POLY(3-HYDROXYBUTYRIC ACID-CO-3-HYDROXYVALERIC ACID) SPHERULITES CRYSTALLIZED WITH POLY(VINYL METHYL ETHER) | 115 |
| <i>Chung-Hao Chen, Eamor M. Woo</i> | |
| INSIGHTS ON THE EFFICIENCY OF BIO-BASED ANTIOXIDANTS IN PLA/ABS BLENDS | 116 |
| <i>Alan Rigoussen, Pierre Verge, Jean-Marie Raquez, Youssef Habibi, Philippe Dubois</i> | |
| MECHANISMS OF DUAL SPHERULITIC MORPHOLOGY IN POLY(L-LACTIC ACID) INDUCED BY AMORPHOUS POLYMER | 117 |
| <i>Graecia Lugito, Eamor M. Woo</i> | |
| STRAIN SENSOR WITH SELECTIVELY DISTRIBUTED FILLER NETWORK IN CONDUCTIVE POLYMER COMPOSITES | 118 |
| <i>Ludwig Cardon, Lingyan Duan, Geert Luyckx, Joris Degrieck, Dagmar D'Hooge</i> | |
| IMPROVEMENT OF RHEOLOGICAL AND MECHANICAL PROPERTIES OF PLA BY REACTIVE BLENDING WITH POLY(MMA-G-GMA) | 119 |
| <i>Amirhossein Karimi, Hamid Garmabi, Azizeh Javadi, Mostafa Ahmadi</i> | |
| ELONGATION THINNING AND MORPHOLOGY DEFORMATION OF NANOPARTICLE-FILLED POLYPROPYLENE/POLYSTYRENE BLENDS IN ELONGATIONAL FLOW | 120 |
| <i>Miqiu Kong, Yajiang Huang, Guangxian Li</i> | |
| RECYCLED POLYCARBONATE AS IMPACT MODIFIER IN POLYPROPYLENE | 121 |
| <i>Jean-Baptiste X. Michel Hau, Baltus Cornelius Bonse</i> | |
| MECHANICAL PROPERTIES OF VIRGIN ABS/POST-CONSUMER ABS BLENDS | 126 |
| <i>Adriana Martinelli Catelli Souza, Mayara Galego Cucchiara</i> | |
| ENHANCED THERMAL CONDUCTIVITY OF POLYMER COMPOSITES FILLED WITH HYBRID FILLERS | 127 |
| <i>Seyed Armin Seyed Esfahani, Nikoo Ghahramani, Milad Mehranpour, Hossein Nazockdast</i> | |
| INVESTIGATION ON THE THERMAL STABILITY AND MORPHOLOGY OF PLA/PCL/STARCH TERNARY BLENDS CONTAINING HYDROXYAPATITE NANOPARTICLES AND TRICLOSAN | 128 |
| <i>Shakiba Yavarpanah, Javad Seyfi, Hossein Ali Khonakdar</i> | |
| MORPHOLOGY, CRYSTALLIZATION KINETICS IN TERNARY POLYMER BLENDS: EVALUATING THE INFLUENCE OF SURFACE FUNCTIONALIZED CARBON NANOTUBES | 129 |
| <i>Goutam Prasanna Kar, Suryasarathi Bose</i> | |
| NANOPARTICLE PARTITIONING OF MWCNTS FILLED PC/PVDF CO-CONTINUOUS BLENDS BY RHEOLOGICAL CHARACTERIZATION | 130 |
| <i>Hamid Ahmadi, Seyed Mohammad Hosseini, Azizeh Javadi, Hossein Nazockdast, Mohammad Anvari</i> | |
| AN INVESTIGATION OF LINEAR VISCOELASTIC BEHAVIOR OF PP/EVA/LDH NANOCOMPOSITES BY USING DYNAMIC MECHANICAL ANALYSIS AND CREEP TEST | 131 |
| <i>Reza Mahdavi, Maryam Otadi, Vahabodin Goodarzi</i> | |
| THE USAGE OF OCTAISOBUTYL-POSS IN THE BLENDS OF PLA/PBAT: “EFFECTS OF MOLECULAR WEIGHT OF PBAT” | 132 |
| <i>Buse Nur Can, Nilay Tuccar Kilic, Mehmet Kodal, Guralp Ozkoc</i> | |

| | |
|--|-----|
| EFFECTS OF DIFFERENT TOUGHENERS ON THE PROPERTIES OF POLY(LACTIC ACID) | 133 |
| <i>Buse Nur Can, Nilay Tuccar Kilic, Mehmet Kodal, Guralp Ozkoc</i> | |
| IMMISCIBLE PLA/PBAT BLENDS AND PARTIALLY MISCIBLE PLA/TPU BLENDS: “COMPARISON OF THE EFFECTS OF O-POSS ON THERMAL AND THERMO-MECHANICAL PROPERTIES” | 134 |
| <i>Nilay Tuccar Kilic, Buse Nur Can, Mehmet Kodal, Guralp Ozkoc</i> | |
| THERMAL AND THERMO-MECHANICAL PROPERTIES OF PLA/TPU/EPOXY-POSS TERNARY BLENDS | 135 |
| <i>Nilay Tuccar Kilic, Buse Nur Can, Mehmet Kodal, Guralp Ozkoc</i> | |

S03 – RHEOLOGY AND PROCESS SIMULATION

| | |
|--|-----|
| SHEAR-INDUCED CRYSTALLIZATION OF POLYMERS: DISCUSSION ON THE COUPLED MECHANICAL AND STRUCTURAL EFFECTS | 136 |
| <i>Jean-Marc Haudin, Severine A. E. Boyer</i> | |
| MEASURING AND MODELLING NECKING OF POLYMERS | 137 |
| <i>Paul Edward Spencer, Phil Coates, Fin Caton-Rose, John Sweeney</i> | |
| ON THE PULSATING FLOW BEHAVIOR OF A BIOLOGICAL FLUID: HUMAN BLOOD | 138 |
| <i>Edtson Emilio Herrera Valencia, Mayra Luz Sánchez Villavicencio, Fausto Calderas, Luis Medina-Torres</i> | |
| SIMULATION OF ASYMMETRICAL MULTILAYER FLAT FILM COEXTRUSION REGARDING SLIP AT THE WALL AND INTERFACIAL SLIP AT THE POLYMER-POLYMER INTERFACE | 139 |
| <i>Christian Kneidinger, Gernot Zitzenbacher, Manuel Längauer, Elias Mayrhofer, Jürgen Miethlinger</i> | |
| MODELING OF INJECTION OVERMOLDED STAMP FORMED THERMOPLASTIC COMPOSITES | 144 |
| <i>Franco S Costa</i> | |
| STRAIN-DEPENDENT UPSCALING METHOD IN DISSIPATIVE PARTICLE DYNAMICS SIMULATIONS OF NANOPARTICLES ORIENTATION UNDER SHEAR | 145 |
| <i>Clemens H. Holzer, Ali Gooneie</i> | |
| NUMERICAL SIMULATION OF PLASTIC SHEET SOLIDIFICATION BY USING CHILLING ROLLS | 146 |
| <i>Evan Mitsoulis</i> | |
| FULL CHARACTERIZATION OF MULTI-PHASE, MULTI-MORPHOLOGICAL KINETICS IN FLOW-INDUCED CRYSTALLIZATION OF IPP AT ELEVATED PRESSURE | 147 |
| <i>Gerrit W. M. Peters</i> | |
| SIMULATIVE DETERMINATION OF THE OPTIMIZATION POTENTIAL OF ADDITIVELY MANUFACTURED STATIC MIXING ELEMENTS FOR EXTRUSION | 148 |
| <i>Christian Hopmann, Malte Schön, Wilhelm Meiners, Liyaowei Shen</i> | |
| RHEOLOGY OF INDUSTRIAL PLASTISOL FORMULATIONS | 149 |
| <i>Jean-François Agassant</i> | |
| LINEAR AND NON-LINEAR VISCO-ELASTIC BEHAVIOR OF FIBRILLAR MORPHOLOGY FORMED VIA FIBER SPINNING OF PP/PA6 BLEND | 150 |
| <i>Roozbeh Hajiraissi, Yousef Jahani, Tobias Hallmann</i> | |
| EFFECT OF THERMAL HISTORY ON CRYSTALLIZATION BEHAVIOR OF POLYETHYLENES IN HIGH-SPEED DSC MEASUREMENTS | 151 |
| <i>Wataru Takarada, Koya Kawai, Yasuhiko Othuki, Yutaka Kobayashi, Takeshi Kikutani</i> | |
| RHEOLOGICAL BEHAVIOUR OF A HIGH MELT STRENGTH POLYPROPYLENE AT ELEVATED PRESSURE AND GAS-LOADING | 152 |
| <i>Daniel Raps, Lutz Heymann, Volker Altstadt</i> | |
| RHEOLOGICAL PROPERTIES OF POLYACRYLAMIDE AND AMIDO AMINE-BASED CATIONIC GEMINI SURFACTANT SOLUTIONS | 153 |
| <i>Muhammad Shahzad Kamal, S. M. Shakil Hussain, Lionel Talley Fogang, Abdullah Saad Sultan</i> | |
| DESIGN, STRUCTURATION AND RHEOLOGICAL PROPERTIES OF LAPONITE BASED POLYMERIC NANOCOMPOSITES | 154 |
| <i>Omar Abakar Adam, Jean Francois Tassin</i> | |
| DISTINCTION OF MEASUREMENT-RELATED AND MATERIAL-RELATED SCATTERING OF YOUNG’S MODULUS OF THERMOPLASTICS DURING TENSILE TESTING | 155 |
| <i>Jan-Uve Walter, Volker Schöppner</i> | |
| VISCOSITY AMPLIFICATION IN DILUTE SUSPENSIONS OF RODS IN A CARREAU MATRIX FLUID | 156 |
| <i>Jan Domurath, Marina Saphiannikova, Gilles Ausias, Julien Férec, Gert Heinrich</i> | |
| SIMULATION OF THE MELTING BEHAVIOUR IN AN INJECTION MouldING PLASTICIZING UNIT COMPARED WITH PRESSURE AND ULTRASOUND MEASUREMENTS | 157 |
| <i>Dominik Altmann, Bernhard Praher, Georg Steinbichler</i> | |
| MOLECULAR DYNAMICS SIMULATIONS OF ISOCYANATE-BASED MOLECULES VISCOSITY | 162 |
| <i>Veniero Lenzi, Piet J. Driest, Dirk J. Dijkstra, Frank U. Richter, Dimitrios Statamatialis, Dirk W. Grijpma, Marta Maria Duarte Ramos, Luís Silvino Alves Marques</i> | |
| PREDICTION OF FINAL CRYSTAL MORPHOLOGY OF SEMI-CRYSTALLINE POLYMERS USING PHASE FIELD MODELING (PFM) | 163 |
| <i>Nasrin Baghershahi, Behzad Pourabbas, Mahdi Salami Hosseini</i> | |
| PEROXIDE CROSSLINKING OF LINEAR LOW DENSITY POLYETHYLENE | 164 |
| <i>Gulsen Kurt Demir, Ezgi Bicer, Mehmet Kodal, Guralp Ozkoc</i> | |
| A NEW IMPLEMENTATION OF THE SURFACE TENSION FORCE TO REDUCE THE SPURIOUS CURRENTS IN TWO-PHASE FLOW | 165 |
| <i>Mehdi Mostafaiyan, Sven Wießner, Gert Heinrich</i> | |

| | |
|---|-----|
| EVALUATION OF THE INFLUENCE OF THE TOOL SURFACE ON POLYMER MELT FLOW USING A NOVEL RHEOLOGICAL EXTRUSION SLIT DIE | 166 |
| <i>Gernot Zitzenbacher, Elvio Brunner</i> | |
| EXTRUSION AND INJECTION MOLDING NANOCELLULOSE - POLYPROPYLENE NANOCOMPOSITES: CRITICAL PROCESSING ASPECTS | 171 |
| <i>Burcu Girginer, Mert Emre Oztoksoy, Ramazan Bedirhan Yildiz, Fatma Seniha Guner, Mehmet Ozgur Seydibeyoglu, Deniz Taskin</i> | |
| EFFECTS OF INTERPARTICLE INTERACTIONS ON THE FLOW BEHAVIOUR OF LOW DENSITY POLYETHYLENE FILLED WITH VARIOUS FILLERS | 172 |
| <i>Nico Laufer, Harald Hansmann, Michael Koch, Christian Boss, Stefan Ofe</i> | |
| APPLICATION OF MULTI-SCALE APPROACH TO RUBBERS REINFORCED AT DIFFERENT PROCESSING CONDITIONS | 177 |
| <i>Ievgeniia Ivaneiko, V. Toshchevnikov, A. L. Svistkov, G. Heinrich, M. Saphiamnikova</i> | |
| VISCOSITY MEASUREMENTS FOR RUBBER COMPOUNDS USING SLIT-DIE RHEOMETRY | 178 |
| <i>Walter Friesenbichler, Andreas Neunhaeuserer</i> | |
| VISCOELASTIC EFFECTS ON THE ROLL-SEPARATING FORCE AND POWER INPUT ON THE CALENDERING PROCESS OF A NON-NEWTONIAN FLUID | 179 |
| <i>Jaime Ernesto Muñoz Sánchez</i> | |
| FOLLOWING PHASE TRANSITIONS WITH RHEOMETRY AND SIMULTANEOUS RAMAN-SPECTROSCOPY | 180 |
| <i>Bernd Jakob</i> | |
| CORRELATION OF STEADY SHEAR RHEOLOGY AND MORPHOLOGY OF NYLON 6 GLASS FIBRE COMPOSITES | 181 |
| <i>Deverpiran Vishak Perumal, Sati N Bhattacharya, Rahul K Gupta, Franco S Costa</i> | |
| EFFECTS OF MORPHOLOGY AND RHEOLOGY ON NYLON 6 GLASS FIBRE COMPOSITES | 182 |
| <i>Rahul K Gupta, Deverpiran Vishak Perumal, Sati N Bhattacharya, Franco S Costa</i> | |
| HYDRODYNAMIC CHARACTERISTICS OF THE POLYMER MELTS FLOWS IN THE CONVERGING PLANE-PARALLEL CHANNELS | 183 |
| <i>Grigory Pyshnograï, Konstantin Koshelev, Alexander Kuznetcov, Vadim Bocharnikov</i> | |
| USING THE CONE PARTITIONED PLATE GEOMETRY FOR ENHANCED MATERIAL CHARACTERIZATION OF POLYMER MELTS | 184 |
| <i>Viktor Reim, James P Eickhoff, Gunther Arnold, Jörg Lauser</i> | |
| MODELING THE FLOW OF NON-NEWTONIAN FLUIDS IN SINGLE-SCREW EXTRUDERS | 185 |
| <i>Christian Marschik, Wolfgang Roland, Juergen Miethlinger</i> | |
| SHEAR STRESS GROWTH PHENOMENA OF AMORPHOUS POLYMER IN LOW SHEAR RATE REGION | 186 |
| <i>Natsumi Yamasaki, Aya Tominaga, Hiroshi Sekiguchi, Ryoko Nakano, Shigeru Yao, Eiichi Takatori</i> | |
| THE INFLUENCE OF THE MORPHOLOGICAL STRUCTURE OF POLYMER FOAM-BASED ADSORBENTS FOR THE TREATMENT OF ORGANIC CONTAMINATED WASTEWATER | 187 |
| <i>Pavani Cherukupally, Krishna Prasad Nagarajan Ramani, Amy M. Bilton, Chul B. Park</i> | |
| MATHEMATICAL MODELING OF THE FILM FORMING POLYMER IN A BIAXIAL STRETCHING | 188 |
| <i>Grigory Pyshnograï, Darina Merzlikina, Alexander Kuznetcov</i> | |
| SURFACE TREATMENT OF CELLULOSE NANOCRYSTALS (CNC) – EFFECTS ON DISPERSION RHEOLOGY | 189 |
| <i>Lilian Forsgren, Karin Sahlin, Tobias Moberg, Gunnar Westman, Mikael Rigdahl</i> | |
| INFLUENCE OF TALC PROPERTIES ON PROCESSABILITY, RHEOLOGICAL BEHAVIOUR AND CRYSTALLINITY OF PP BASED AUTOMOTIVE COMPOUNDS | 190 |
| <i>Ramazan Bedirhan Yildiz, Burcu Girginer, Fatma Seniha Guner</i> | |
| OPTIMIZATION FOR STARVE FED/FLOOD FED SINGLE SCREW EXTRUSION | 198 |
| <i>Andrzej Nastaj, Krzysztof Wilczynski</i> | |
| STRUCTURE DEVELOPMENT IN MOLTEN CONDUCTIVE POLYMER COMPOSITES STUDIED BY ELECTRICAL-RHEOLOGICAL MEASUREMENTS | 199 |
| <i>Zdenek Stary</i> | |
| LCB FORMATION IN PLA BY REACTIVE EXTRUSION | 200 |
| <i>Joachim Kaschta, Lydia Lanzl, Simon Lemppenau, Dirk W Schubert</i> | |
| ANALYSIS OF NONLINEAR VISCOELASTIC PROPERTIES OF POLYMERIC MATERIALS AT THEIR LARGE PERIODIC DEFORMATION | 201 |
| <i>Grigory Pyshnograï, Nadezdha Cherpakova, Olga Kondratieva</i> | |

S04 – FUNCTIONAL, NANO AND BIO COMPOSITES

| | |
|---|-----|
| PREPARATION AND THERMAL PROCESSING OF FUNCTIONAL POLY(VINYL ALCOHOL) BASED MICRO/NANOCOMPOSITES | 202 |
| <i>Qi Wang, Li Li, Ning Chen</i> | |
| ORTHOPAEDIC COMPRESSION SCREWS FORMED FROM BODY-TEMPERATURE REVERTING, SHAPE-MEMORY POLYMERS | 203 |
| <i>Brian Thomson, Glen Thompson, Dimitrios Vgenopoulos, Karthik Nair, Ken Howell, Mike Martyn, Phil Coates</i> | |
| NANOSTRUCTURED FILMS OF NATURAL POLYMERS AND GRAPHENE DERIVATIVES | 204 |
| <i>Maria Conceio Paiva, Duarte Moura, Cludia Silva, Magda Silva, Catarina Vale, Sofia Caridade, Eunice Cunha, Maria Sousa, Helena Rocha, Joo Mano, Natalia Alves</i> | |

| | |
|--|-----|
| FUNCTIONALIZED NANOMATERIALS BASED POLYMER NANOCOMPOSITES: A WAY TO NEW GENERATION FLAME RETARDANT MATERIALS | 205 |
| <i>De-Yi Wang</i> | |
| NANOMINE: DEVELOPMENT OF MATERIAL DATA RESOURCE AND ANALYSIS TOOLS FOR POLYMER NANOCOMPOSITES | 206 |
| <i>Catherine Brinson, He Zhao, Yixing Wang, Xiaolin Li, Yichi Zhang, Aditya Prasad, Wei Chen, Linda Schadler</i> | |
| EFFECT OF ADDITION OF FILLER ON THE TRIBOLOGICAL PROPERTIES OF CF/PEEK COMPOSITES | 207 |
| <i>Sungha Kim, Kenichi Sugiyama, Kazuhiko Sugiyama, Kazuma Mikawa, Keisuke Nakamura, Yosuke Nishitani</i> | |
| EFFECT OF FILLER TYPE AND PARTICLE SIZE DISTRIBUTION ON THERMAL PROPERTIES OF BIMODAL AND HYBRID - BN/BOEHMITE-FILLED EP-NOVOLAC COMPOSITES | 212 |
| <i>Christin Pawelski, Enpu Kang, Gökhan Bakis, Volker Altstädt</i> | |
| INFLUENCE OF 1,3,5-BENZENE TRISAMIDE BASED ADDITIVES ON THE MORPHOLOGY AND MECHANICAL PROPERTIES OF ISOTACTIC POLYPROPYLENE | 217 |
| <i>Michaela Mörl, Hans-Werner Schmidt, Volker Altstädt</i> | |
| FLAME RETARDANT PROPERTIES OF POLYMER COMPOSITES OF UREA COMPLEX OF MAGNESIUM AND VERMICULITE | 218 |
| <i>Herminio Francisco Muiambo, Walter W. Focke, Joseph K. O. Asante</i> | |
| HIGHLY FILLED BORON NITRIDE-PHTHALONITRILE NANOCOMPOSITES FOR EXIGENT THERMALLY CONDUCTIVE APPLICATIONS | 223 |
| <i>Mehdi Derradji</i> | |
| FIBER SURFACE TREATMENT TO INCREASE THE FIBER CONTENT AND MECHANICAL PROPERTIES OF ROTOMOLDED COIR-LMDPE AND AGAVE-LMDPE COMPOSITES | 224 |
| <i>Erick Omar Cisneros-López, Martín Esteban González-López, Aida Alejandra Pérez-Fonseca, Rubén González-Núñez, Denis Rodrigue, Jorge Ramón Robledo-Ortiz</i> | |
| STIFFENING MECHANISMS IN VERMICULITE-AMORPHOUS POLYAMIDE BIO-NANOCOMPOSITES | 225 |
| <i>Afonso Daniel Macheca, Walter W Focke, Herminio Francisco Muiambo, Mustapha Kaci</i> | |
| PROPERTIES OF CROSSLINKED POLYETHYLENE/OIB-POSS NANOCOMPOSITES:"EFFECT OF PEROXIDE CONCENTRATION" | 226 |
| <i>Ezgi Bicer, Gulsen Kurt Demir, Mehmet Kodal, Guralp Ozkoc</i> | |
| INVESTIGATION OF THE INTERFACE OF POLYAMIDE-POLYPROPYLENE LAMINATES | 227 |
| <i>Judith Büttler, Tung Pham</i> | |
| IMPROVED FLAME RETARDANCY FOR POLY(BUTYLENE TEREPHTHALATE) WITH PHOSPHORUS-CONTAINING POLYESTERS | 232 |
| <i>Doris Pospiech, Andreas Korwitz, Oliver Fischer, Michael Ciesielski, Manfred Döring, Bernhard Schartel, Sven Brehme, Volker Altstädt</i> | |
| NANOCELLULOSE REINFORCED THERMOPLASTIC COMPOSITES OF POLY(ETHYLENE ACRYLIC ACID) | 233 |
| <i>Johannes Thunberg, Abhijit Venkatesh, Antal Boldizar</i> | |
| TAILORED WOOD STRAND PLASTIC COMPOSITES FOR HIGH PERFORMANCE APPLICATIONS | 234 |
| <i>Robert Hartmann, Michael Koch</i> | |
| USE OF RECYCLED WASTE PAPER AS FIBER REINFORCEMENT FOR POLYPROPYLENE – RELATIONSHIP OF FIBER EXTRACTION PROCESS AND MECHANICAL PROPERTIES OF THE COMPOSITES | 235 |
| <i>Andrea Scholten, Dieter Meiners</i> | |
| PROPERTIES OF LYOCCELL-POLYPROPYLENE COMPOSITES | 240 |
| <i>Michael Cordin, U. J. Griesser, T. Bechtold, T. Pham</i> | |
| TAILORED EPOXY SYSTEM MODIFIED WITH BLOCK CO-POLYMER, CORE SHELL RUBBER AND HYBRID: MECHANICAL PROPERTIES AND FRACTURE MECHANISMS | 245 |
| <i>Ankur Bajpai, Bernd Wetzel</i> | |
| CELLULOSE NANOMATERIALS: A NATURAL BIOPOLYMER AS SUSTAINABLE MATERIAL FOR FUTURE | 246 |
| <i>Pradip Kumar Maji, Chandravati Yadav</i> | |
| STUDY ON EFFECT OF ORGANIC COMPOUNDS WITH OH GROUP ON CONDUCTIVITY ENHANCEMENT OF POLY(3,4-ETHYLENEDIOXYTHIOPHENE) DOPED WITH POLY(STYRENE SULFONIC ACID) (PEDOT:PSS) | 247 |
| <i>Shigeji Konagaya</i> | |
| ANTISTATIC PROPERTIES OF TRANSPARENT PLASTICS USING A DONOR-ACCEPTER MOLECULAR COMPOUND ANTISTATIC AGENT | 248 |
| <i>Takuro Watanabe</i> | |
| DEFORMATION BEHAVIOR OF POLYLACTIDE RELATING TO PLASTIC FORMING PROCESSES | 249 |
| <i>Hans-Joachim Radusch, Andre Wutzler, Meflet Asghaier</i> | |
| ADVANCED SHORT FIBER COMPOSITES WITH HYBRID REINFORCEMENT BASED ON GLASS AND CELLULOSE FIBERS – EFFECT OF COUPLING AGENT ON MECHANICAL PROPERTIES | 250 |
| <i>Christian Kahl, Maik Feldmann, Hans-Peter Heim</i> | |
| POLYMERIC CNT COMPOSITES: ATOMISTIC SIMULATIONS OF INTERFACIAL PROPERTIES | 251 |
| <i>Jacek Golebiowski, Arash A Mostofi, Peter D Haynes</i> | |
| IMMOBILIZATION OF TiO₂ NANOPARTICLES IN PMMA NANOFIBER MAT FOR PHOTOCATALYTIC REMOVAL OF DYES FROM WATER | 252 |
| <i>Ozcan Koysuren, Hafize Nagehan Koysuren</i> | |

| | |
|--|-----|
| PREPARATION, MECHANICAL PROPERTIES AND MOISTURE ABSORPTION OF URETHANE ACRYLATE RESIN/CLAY NANOCOMPOSITES | 256 |
| <i>Masoud Esfandeh, Hossein Ali Khonakdar, Seyed Mojtaba Mirabedini, Reza Gashtil</i> | |
| HIERARCHICAL FUNCTIONALIZATION OF HALLOYSITE NANOTUBE AND ITS ENHANCEMENT IN THERMAL STABILITY, FIRE RETARDANCY AND MECHANICAL PROPERTY OF EPOXY RESIN | 257 |
| <i>De-Yi Wang, Zhi Li, Lejing Liu, Alejandro Jiménez González</i> | |
| MODELLING AND OPTIMISATION OF THE MECHANICAL AND OTHER MATERIAL PROPERTIES OF A POLYMER NANOCOMPOSITE USING STATISTICAL DESIGN OF EXPERIMENTS | 258 |
| <i>Reinhard Fechter, Ines Kuehnert, Carl Sandrock, Johan Labuschagne</i> | |
| PROCESSING OF ELECTROMAGNETIC INTERFERENCE SHIELDING WATER-BORNE POLYURETHANE COMPOSITES FILLED WITH SILVER NANOPARTICLES DEPOSITED ON FUNCTIONALIZED GRAPHENE | 263 |
| <i>Chen Chi M. Ma, Sheng Chi Lin, Ming-Yuan Shen</i> | |
| STUDY OF MODIFIED LDHS AS UV PROTECTING MATERIALS FOR POLYPROPYLENE (PP) | 264 |
| <i>Sajid Naseem, Sunil P Lonkar, Andreas Leuteritz</i> | |
| LAYERED DOUBLE HYDROXIDE APPLICATIONS - INDUSTRY VS RESEARCH | 269 |
| <i>Johan Labuschagne</i> | |
| POLYAMIDE GNP NANOCOMPOSITES FOR PERMEATION CONTROL | 270 |
| <i>A. Leuteritz, P. Langner, M. Schult, M. Trampe, R. Boldt, U. Wagenknecht</i> | |
| APPLICATION OF DESERT SANDS AS REINFORCING MATERIAL FOR POLYMER CONCRETE | 271 |
| <i>Stefan Caba, Christian Fiebig, Michael Koch</i> | |
| INVESTIGATION ON THE THERMOFORMABILITY OF HEAT CONDUCTIVE POLYMERS | 272 |
| <i>Kai Landecker, Christian Bonten</i> | |
| THE EFFECTS OF SURFACE MODIFICATION OF MWCNTS WITH HEXANOL ON THE NON-ISOTHERMAL CRYSTALLIZATION KINETICS OF POLY(BUTYLENE SUCCINATE) | 277 |
| <i>Tugay Yarici, Mehmet Kodal, Guralp Ozkoc</i> | |
| KERATIN FIBRES RECOVERED FROM TANNERY INDUSTRY WASTES AS FIRE RETARDANT AGENT ON PLA COMPOSITES | 278 |
| <i>Guadalupe Sanchez-Olivares, Antonio Sanchez-Solis, Fausto Calderas, Jenny Alongi</i> | |
| THERMAL CYCLING EFFECT ON MECHANICAL PROPERTIES OF MULTIWALLED CARBON NANOTUBES REINFORCED EPOXY/CARBON FIBER COMPOSITE LAMINATES | 279 |
| <i>Chin-Lung Chiang, Chin-Hsing Chen, Wei-Jen Chen, Chen-Chi M. Ma, Ming-Yuan Shen</i> | |
| PREPARATION AND PROPERTIES OF ANTIMICROBIAL PLA/PEG/NANO AG NANOCOMPOSITES | 280 |
| <i>Azizeh Javadi, Mahmood Pazuki, Amir Khaki</i> | |
| MICROENCAPSULATION OF MELAMINE POLYPHOSPHATE AND ITS FLAME RETARDANCE IN POLYURETHANE COMPOSITES | 281 |
| <i>Ming-Yuan Shen, Wei-Jen Chen, Chen-Feng Kuan, Hsu-Chiang Kuan, Jia-Ming Yang, Chin-Lung Chiang</i> | |
| FRICITION AND WEAR PROPERTIES OF RECYCLED NATURAL FIBER REINFORCED PLANT-DERIVED POLYAMIDE1010 BIOMASS COMPOSITES | 282 |
| <i>Yosuke Nishitani, Natsuki Sugawara, Kentaro Kawasaki, Shuto Oda, Jun Mukaida, Tetsuto Kajiyama</i> | |
| MODELLING THE EFFECTS AND INTERACTIONS OF A LAYERED DOUBLE HYDROXIDE IN A FLEXIBLE PVC FORMULATION | 287 |
| <i>Reinhard Fechter, Carl Sandrock, Johan Labuschagne</i> | |
| PREPARATION AND CHARACTERIZATION OF ELECTRICALLY CONDUCTIVE THERMOPLASTIC POLYURETHANE/GRAPHENE-GRAPHENE OXIDE NANOCOMPOSITE POROUS FILMS | 288 |
| <i>Mohammadali Razeghi, Gholamreza Pircheraghi</i> | |
| SIMULATING THE ELECTRIC CONDUCTIVITY OF THE CONDUCTIVE POLYMER COMPOSITES | 289 |
| <i>Guanda Yang, Fritjof Nilsson, Dirk W. Schubert</i> | |
| ELECTRICAL CONDUCTIVITIES OF MELT SPUN PMMA/ALIGNED CARBON FIBERS/CARBON BLACK FIBER COMPOSITES | 294 |
| <i>Muchao Qu, Fritjof Nilsson, Dirk W. Schubert</i> | |
| EFFECT OF AMMONIUM AND AMINOSILANE MONTMORILLONITES ORGANO-CLAYS ON THE CURING KINETICS OF UNSATURATED POLYESTER (UP) RESIN NANOCOMPOSITES | 295 |
| <i>Maria Angeles Vargas</i> | |
| THE EFFECT OF NANOSILICA ON RHEOLOGY, CRYSTALLINITY AND MECHANICAL PROPERTIES OF HIGH DENSITY POLY ETHYLENE (HDPE), ETHYLENE,1- OCTENE COPOLYMER (EOC) AND THEIR BLENDS | 296 |
| <i>Azizeh Javadi, Samira Karimi, Hossein Nazockdast</i> | |
| PREPARATION AND CHARACTERIZATION OF POLYIMIDE REINFORCED CARBON FIBER COMPOSITES BY VACUUM ASSISTED RESIN INFUSION | 297 |
| <i>Si-Hoon Jang, Young-Sek Sur, Jun Choi, No-Hyung Park</i> | |
| EFFECT OF MODIFIED MONTMORILLONITE IN THE FLEXURAL AND TENSILE PROPERTIES OF POLYLACTIC ACID NANOCOMPOSITES | 298 |
| <i>Aida Alejandra Perez-Fonseca, Alan Salvador Martín Del Campo, Jorge Ramón Robledo-Ortiz, Edgar José López-Naranjo, Martín Rigoberto Arellano-Martínez, Carlos Federico Jasso-Gastinel</i> | |
| ON THE EFFECT OF USING A HYBRID OF NANOPARTICLES CONTAINING CLAY AND CaCO3 ON THE VISCOELASTIC RESPONSE OF PP/EVA BLENDS | 299 |
| <i>Mohammad Mahyar Pourabdollah Khadar, Javad Seyfi, Hossein Ali Khonakdar</i> | |
| EFFECT OF AMMONIUM AND AMINOSILANE MONTMORILLONITES ORGANO-CLAYS | 300 |
| <i>Maria Angeles Vargas</i> | |

| | |
|--|-----|
| MECHANOCHEMICAL SYNTHESIS OF LAYERED DOUBLE HYDROXIDE MATERIALS | 301 |
| <i>Keagan Michael Bester, W. W. Focke, F. J. W. J. Labuschagne</i> | |
| PARAMETERS AFFECTING THE DISSOLUTION-PRECIPIATION SYNTHESIS OF KATOITE AND HYDROCALUMITE | 306 |
| <i>Bianca Renita Gevers, F. J. W. J. Labuschagne</i> | |
| EFFECT OF PHOSPHORUS-CONTAINING MODIFIED MAGNESIUM HYDROXIDE ON THE MECHANICAL PROPERTIES AND FLAMMABILITY OF PLA/MH COMPOSITES | 311 |
| <i>Pengcheng Zhao, Zhiqi Liu, Michael Gehde, Ines Kuehnert, Andreas Leuteritz</i> | |
| ASSESSMENT OF POLY(LACTIC ACID) CRYSTALLIZATION BEHAVIOR IN THE PRESENCE OF A PLASTICIZER AND NANOPARTICLES | 315 |
| <i>Mehrnoush Monshizadeh, Hossein Ali Khonakdar, Javad Seyfi</i> | |
| PROPERTIES OF POLY (HYDROXYBUTYRATE-CO-VALERATE) COMPOSITES REINFORCED WITH ALFA FIBER AND ITS CELLULOSE | 316 |
| <i>Amar Boukerrou</i> | |
| USE OF NATURAL POLYMERS EXTRACTED FROM AGROINDUSTRIAL RESIDUES OF AGAVE TEQUILANA WEBER VAR. AZUL IN THE SYNTHESIS OF SILVER NANOPARTICLES AND THEIR ANTIBACTERIAL ACTIVITY | 317 |
| <i>Edgar José López-Naranjo, Aida Alejandra Pérez-Fonseca, Jorge Ramón Robledo-Ortiz, Irma Paz Hernández-Rosales, Adela Yolanda Bueno-Durán, Luis Javier González-Ortiz, Alejandro Manzano-Ramírez</i> | |

S05 – FIBERS, FILMS AND FOAMS

| | |
|---|-----|
| TRENDS AND PERSPECTIVES OF BEAD FOAM PROCESSING | 318 |
| <i>Volker Altstadt, Thomas Neumeyer, Peter Schreier, Michael Fajara, Julia Gensel, Tobias Standau, Bianca Hädel, Yejun Zhu</i> | |
| MODELLING THE STRETCHING OF POLYPROPYLENE FILMS BY A NONLINEAR SPRING DASHPOT MODEL | 319 |
| <i>Frauke Reinders, Volker Schöppner</i> | |
| DEVELOPMENT OF POLYOLEFIN BICOMPONENT FIBERS AS CONTROLLED RELEASE DEVICES OF REPELLENTS FOR MALARIA VECTOR CONTROL | 320 |
| <i>Mthokozisi Sibanda, Andreas Leuteritz, Harald Brunig, Walter Focke</i> | |
| PERFORMANCE OF JUTE/PLA ALL-BIODEGRADABLE OVERMOLDED ECO-COMPOSITES | 325 |
| <i>Abdulmounem Alchekh Wis, Guralp Ozkoc</i> | |
| IN-SITU OBSERVATION OF MULTIPLE-NECKING BEHAVIOR IN CONTINUOUS COLD DRAWING OF PET FILAMENTS IN ETHANOL | 326 |
| <i>Dongwoo Go, Wataru Takarada, Arun Aneja, Takeshi Kikutani</i> | |
| STRUCTURAL RESPONSE OF POLY(3-HYDROXYBUTYRATE) FIBERS TO HEAT AND STRESS | 331 |
| <i>Rudolf Hufenus, Felix A. Reifler</i> | |
| EFFECT OF CO-PLASTICIZER TYPE ON PROPERTIES OF EDIBLE STARCH FILMS | 332 |
| <i>Semin Ozge Ozkoc, Seval Sungur, Melike Kaval, Guralp Ozkoc</i> | |
| BIOPOLYMER FOAM BLENDS OF POLY(LACTIC ACID) AND NOVATEIN® THERMOPLASTIC PROTEIN | 333 |
| <i>Anuradha Sammani Walallavita</i> | |
| DYNAMICS AND STRUCTURE DEVELOPMENT FOR BIAXIAL STRETCHING PA6 FILMS | 334 |
| <i>Toshitaka Kanai, Yoshimune Okuyama, Masao Takashige</i> | |
| THE EFFECT OF NANO CALCIUM CARBONATE ON MECHANICAL PROPERTIES, CRYSTALLINITY AND FOAM ABILITY OF PLA/STARCH/ EPOXIDIZED SOYBEAN OIL (ESO) BLENDS | 342 |
| <i>Azizeh Javadi, Elham Vaziri Nasab, Hamid Garmabi</i> | |
| STRUCTURAL PROPERTIES OF HIGH AND ULTRAHIGH STRENGTH POLYACRYLONITRILE-BASED, ULTRAHIGH MODULUS MESOPHASE PITCH-BASED AND HIGH DUCTILITY PITCH-BASED CARBON FIBERS STUDIED BY RAMAN SPECTROSCOPY, WAX AND SAX TECHNIQUES | 343 |
| <i>Muhannad Al Aiti, Michael Göbel, Dieter Jehmichen, Dieter Fischer, Harald Brünig, Gert Heinrich</i> | |
| RECYCLING OF COMPOSITES – A NEW APPROACH MINIMIZES DOWNGRADING | 344 |
| <i>Jochen Wellekötter, Stephan Baz, Johannes Schwingel, Christian Bonten, Götz Gresser, Peter Middendorf</i> | |
| RADIATION-BASED PRE-FOAMING OF EXPANDABLE POLYSTYRENE BEADS (EPS) | 350 |
| <i>Michael Fajara, Johannes Goerl, Peter Schreier, Thomas Neumeyer, Miriam Lucht, Joerg Vetter, Volker Altstaedt</i> | |
| NEAR-NET-SHAPE RIGID FOAM CORES FOR CFRP SANDWICH COMPOSITES MADE FROM POLYETHYLENE TEREPHTHALATE USING THERMOFORMING | 351 |
| <i>Jan Schuette, Stefan Mueller, Klaus Drechsler</i> | |
| OPEN-CELLED FOAMS BASED ON DIBLOCK COPOLYMERS: INFLUENCE OF MELT ELONGATIONAL PROPERTIES ON FOAM MORPHOLOGY | 356 |
| <i>Maria Schulze, Ulrich A. Handge, Volker Abetz</i> | |
| EXTRUSION PARAMETERS OPTIMISATION FOR FOAMING OF HYDROXYPROPYL METHYLCELLULOSE | 357 |
| <i>Kristina Karlsson, Roland Kádár, Mats Stading, Mikael Rigdahl</i> | |
| CONTINUOUS FOAM EXTRUSION OF HIGH IMPACT POLYSTYRENE (HIPS): EFFECT OF PROCESSING PARAMETERS AND BLOWING AGENT TYPE AND CONTENT | 358 |
| <i>Emre Demirtas, Hakan Ozkan, Mohammadreza Nofar</i> | |

| | |
|--|-----|
| THE EVALUATION OF BIAXIAL STRETCHABILITY OF POLYPROPYLENE FILMS BY A NEWLY DEVELOPED TEST MACHINE | 364 |
| <i>Kentarou Egoshi, Toshitaka Kanai, Kazuhiro Tamura</i> | |
| PREPARATION OF INTELLIGENCE BARRIER FILMS BASED ON LOW DENSITY POLY ETHYLENE AND EVALUATION OF ITS PROPERTIES | 369 |
| <i>Babak Bahari-Aban, Milad Mehranpour, Abduroul Oromiehie, Pouria Atabaki-Pasdar</i> | |
| CRYSTALS IN-SITU INDUCED BY SUPERCRITICAL CARBON DIOXIDE AS BUBBLE NUCLEATION AGENTS ON FOAM STRUCTURE CONTROLLING OF POLY(L-LACTIC ACID) | 370 |
| <i>Xia Liao, Junsong Li, Shaojie Li, Guangxian Li</i> | |
| ASSESSMENT OF PARTICLES INTERFACE WELDING QUALITY IN MICROPOROUS STRUCTURES FABRICATED BY SINTERING PROCESS | 371 |
| <i>Meysam Salari, Gholamreza Pircheraghi</i> | |
| SHOCK DAMPING PROPERTIES OF OUT-OF-PLANE REINFORCED COMPOSITES WITH FUNCTIONALLY GRADED SYNTACTIC FOAMS | 372 |
| <i>Ahmed A. W. Anwer, Hani Naguib</i> | |
| CONTROLLED FOAM PROCESSING AND CELL STRUCTURE DEVELOPMENT OF GAMMA IRRADIATED POLYPROPYLENE/ELASTOMER BLENDS | 373 |
| <i>Anup Kumar Ghosh, Anindya Dutta, Srishiti Singh</i> | |
| DEVELOPMENT OF A BEAD FOAM BASED ON THE ENGINEERING POLYMER POLYBUTYLENE TEREPHTHALATE | 374 |
| <i>Tobias Standau, Bianca Hädelt, Michael Fajara, Volker Altstädt</i> | |
| CRACK ARREST IN FINGER JOINTED THERMOPLASTIC POLYETHERSULFONE FILM INTERLEAVED CARBON FIBRE REINFORCED COMPOSITES | 379 |
| <i>David Benbow Anthony, Omar R Bacarreja Nogales, Milo Sebastian Peter Shaffer, Alexander Bismarck, Paul Robinson, Soraia Pimenta</i> | |
| EFFECT OF EXTRUSION PARAMETERS AND NANOFILLERS ON MECHANICAL PROPERTIES OF PEEK STITCHING YARNS | 380 |
| <i>Cormac McGarrigle, Marcin Wegrzyn, Alistair McIlhagger, Eileen Harkin-Jones, Edward Archer</i> | |
| EFFECT OF TRISAMIDE BASED NUCLEATING AGENTS ON THE MORPHOLOGY AND MECHANICAL PROPERTIES OF ISOTACTIC POLYPROPYLENE FOAMS | 385 |
| <i>Merve Demir, Michaela Mörl, Hans-Werner Schmidt, Volker Altstädt</i> | |
| FOAM INJECTION MOLDING OF MAGNETO SENSITIVE POLYMER COMPOSITES | 386 |
| <i>Valentina Volpe, D Auria Marco, Luigi Sorrentino, Daniele Davino, Roberto Pantani</i> | |
| NEW FIBRES FROM PCM USING THE CONVENTIONAL MELT SPINNING PROCESS | 391 |
| <i>Nguyen Hoai An Tran, Martin Kirsten, Chokri Cherif</i> | |
| EXPERIMENTAL STUDY OF FIBER LENGTH REDUCTION OF HIGHLY FILLED LONG GLASS FIBER-REINFORCED POLYPROPYLENE IN A SIMPLE SHEAR FLOW | 396 |
| <i>Sebastian Goris, Sara Simon, Abraham Bechara, Dave Brands, Angel Yanev, Tim Osswald</i> | |
| STUDY OF INFRARED SHEET HEATING FOR THERMOFORMING FIBRE-REINFORCED THERMOPLASTIC COMPOSITE PARTS | 397 |
| <i>Manuel Längauer, Gernot Zitzenbacher, Christian Kneidinger</i> | |
| BIFUNCTIONAL ELECTROSPUN SILVER MODIFIED POLYARYLONITRILE-ACTIVATED CARBON COMPOSITE FIBERS | 398 |
| <i>Thinnakorn Magdee, Sa-Nguansak Sriphalang, Kittipong Hrimchum, Darunee Aussawasathien</i> | |
| SYNTHESIS OF POROUS POLYMERS BY EMULSION TEMPLATED STEP-POLYMERIZATION | 403 |
| <i>Imane Barbara, Hervé Deleuze</i> | |
| STRAIN-INDUCED CRYSTALLIZATION OF PLA AND PP IN EXTRUSION | 404 |
| <i>Alireza Tabatabaei, Chul B. Park</i> | |
| FINE-TUNING THE PROPERTIES OF EXPANDABLE POLYSTYRENE (EPS) | 405 |
| <i>Dieter Rath</i> | |
| PROPERTIES AND FOAMABILITY OF STYRENE-ETHYLENE-BUTYLENE-STYRENE (SEBS)/ POLYSTYRENE (PS) BLENDS | 406 |
| <i>Ritima Banerjee, Suprakash Sinha Ray, Anup K Ghosh</i> | |
| CYCLIC TESTING OF POLYURETHANE FOAM OF PLASTIC JACKET PIPES FOR DISTRICT HEATING | 407 |
| <i>Andreas Leuteritz, Heiko Below</i> | |
| PRECURSOR FIBERS FROM LIGNIN-POLYACRYLONITRILE BLENDS REGENERATED FROM CHLORIDE BASED IONIC LIQUID SOLUTIONS | 408 |
| <i>Muhannad Al Aiti, Lucas Wulff, Harald Brünig, Udo Wagenknecht, Gert Heinrich</i> | |
| NOVEL FLAME-RETARDANT POLYMER BEAD FOAMS | 409 |
| <i>Julia Gensel, Lisa Klug, Gerd Niemeyer, Thomas Neumeyer, Christin Pawelski, Peter Schreier, Wolfgang Teubert, Uwe Wienhold, Hans Wörthwein, Volker Altstädt</i> | |
| PREPARATION OF INTELLIGENCE ANTIBACTERIAL FILMS BASED ON LOW DENSITY POLY ETHYLENE AND EVALUATION OF ITS PROPERTIES | 410 |
| <i>Pouria Atabaki-Pasdar, Milad Mehranpour, Abduroul Oromiehie, Babak Bahari-Aban</i> | |
| INFLUENCE OF RAW MATERIAL PROPERTIES ON SWELLING AND SPINNING STABILITY OF ULTRAHIGH MOLECULAR WEIGHT POLYETHYLENEMONOFILAMENTS | 411 |
| <i>Suhan Yang, Yurong Yan, Deyuan Jiang, Xin Liu, Rudolf Hufenus</i> | |
| THERMOELECTRIC PROPERTIES OF PEDOT:PSS MODIFIED WITH VITAMIN C | 412 |
| <i>Minoj Gnanaseelan, Sumanta Samanta, Petra Pötschke, Jürgen Piointek</i> | |

| | |
|---|-----|
| NOVEL METHOD TO MEASURE SURFACE CRYSTALLINITY OF FIBERS AND NONWOVENS | 413 |
| <i>Franz J. Lanyi, Nicolai Wenzke, Joachim Kaschta, Dirk W. Schubert</i> | |
| A COMPREHENSIVE STUDY ON THE PROPERTIES OF POLYPROPYLENE FIBERS AND NONWOVENS IN DEPENDENCE OF PROCESSING AND STORING CONDITIONS | 414 |
| <i>Franz J. Lanyi, Nicolai Wenzke, Dirk W. Schubert</i> | |
| DEVELOPMENT OF A MODEL FOR THE MECHANICAL BEHAVIOUR OF POLYPROPYLENE NONWOVENS FOR DIFFERENT TEST DIRECTIONS AND STRAIN RATES | 415 |
| <i>Karsten Leucker, Dirk W. Schubert</i> | |

S06 – INJECTION MOLDING AND EXTRUSION

| | |
|---|-----|
| THE SPLINE POLYMER EXTRUDER CONCEPT - A NOVEL GROOVED BARREL SINGLE SCREW EXTRUDER | 416 |
| <i>Jürgen Miethlinger, Wolfgang Roland</i> | |
| MECHANICAL CHARACTERIZATION OF IPP INJECTION MOLDED SAMPLES ON MULTIPLE LENGTH SCALES | 417 |
| <i>Sara Liparoti, Andrea Sorrentino, Vito Speranza, Giuseppe Titomanlio</i> | |
| AUTOMATION OF AN ULTRASOUND MIXING HEAD FOR LOW PRESSURE RESIN TRANSFER MOLDING | 422 |
| <i>Maximilian Kunibert Schaefer, Wolfgang Raffelt, Simon Wittmann, Stefan Ehrenreich, Swen Zarella, Klaus Drechsler</i> | |
| A STUDY ON COOLING PERFORMANCE IN INJECTION MOLDING. HEAT CONDUCTIVE MOLD MATERIALS VERSUS CONFORMAL COOLING CHANNELS. | 423 |
| <i>Gerald Roman Berger, Walter Friesenbichler, David Zorn, Franz Bevc</i> | |
| INTEGRATIVE SIMULATION OF WELD LINE STRENGTH IN UNREINFORCED AMORPHOUS THERMOPLASTICS | 424 |
| <i>Christian Hopmann, Jakob Onken, Lukas Gröning</i> | |
| SIMULATION OF THE MOLD STRUCTURE FOR REDUCING CAVITY FILLING DEVIATION IN MICRO INJECTION MOLDING | 429 |
| <i>Woo Il Lee, Sung Nam Moon, Jae Min Jung</i> | |
| DEFECTS IN INDUSTRIAL FILM EXTRUSION | 430 |
| <i>John Vlachopoulos</i> | |
| NEW APPROACH FOR THE EFFICIENT ATTAINMENT OF FLAME RETARDANCY USING MULTI COMPONENT INJECTION MOLDING | 431 |
| <i>Dorothea Schneider, Christof Hübner, Serge Bourbigot</i> | |
| MULTI-SCALE INVESTIGATION AND FUNDAMENTAL STUDIES ON INTERFACE/INTERPHASE IN MULTILAYERED POLYMER SYSTEMS TOWARDS BETTER CONTROLLING COEXTRUSION PROCESS | 436 |
| <i>Khalid Lammawar, Abderrahim Maazouz, Bo Lu, Arnaud Bondon</i> | |
| A NOVEL METHOD FOR THE PREDICTION OF ADHESIVE STRENGTH FOR TWO-COMPONENT INJECTION MOLDING OF THERMOPLASTICS WITH THERMOSET RUBBERS | 437 |
| <i>Wim Six, Gert-Jan Bex, Jozefien De Keyser, Frederik Desplentere, Albert Van Bael</i> | |
| A NEW APPROACH TO MODEL THERMAL EXPANSION OF SEMI CRYSTALLINE POLYMERS. | 443 |
| <i>Esther Ramakers-Van Dorp, Thomas Haenel, Dirk Reith, Berenika Hausnerová, Bernhard Möglinger</i> | |
| DESIGN AND EXTRUSION OF HIGH-PERFORMANCE POLYETHERIMIDE PIPES WITH VARIABLE WALL THICKNESS FOR AIRCRAFTS | 444 |
| <i>Michael Stegelmann, Niels Modler, Peter Lucas</i> | |
| BUBBLE-FREE POLYMER DEVOLATILIZATION IN A SIMPLIFIED EXTRUDER MODEL | 449 |
| <i>Stefan Hirschfeld, Olaf Wunsch</i> | |
| SIMULATION OF THE EFFECTS OF USING CONFORMAL COOLING CHANNELS IN SLM PRODUCED PLASTIC EXTRUSION CALIBRATORS. | 454 |
| <i>Karen Soete, Frederik Desplentere</i> | |
| MANUFACTURING AND CHARACTERISATION OF LIDOCAINE FILMS PREPARED BY HOT MELT EXTRUSION. | 459 |
| <i>Karthik Nair, Phil Coates, Ben Whiteside, Adrian Kelly, Sachin Korde, Simon Wellings, Anant Paradkar</i> | |
| SINGLE SCREW FOAM EXTRUSION WITH LOW PRESSURIZED BLOWING AGENTS | 460 |
| <i>Martin Langlotz, Matthias Düngen, Michael Koch</i> | |
| ONLINE ANALYSIS OF MELT VISCOSITY DURING INJECTION MOLDING WITH A HOT RUNNER RHEOMETER | 465 |
| <i>Christian Hopmann, Julian Heinisch, M. Theunissen</i> | |
| INFLUENCES OF PROCESSING PARAMETERS ON THE MELT TEMPERATURE HOMOGENEITY IN INJECTION MOLDING | 470 |
| <i>Klaus Straka, Bernhard Praher, Georg Steinbichler</i> | |
| EFFECTS OF DIFFERENT MOLD SURFACE COATINGS ON THE EJECTION FORCE IN MICRO INJECTION MOLDING | 471 |
| <i>Marco Sorgato, Davide Masato, Giovanni Lucchetta</i> | |
| ENHANCING THE WELD LINE STRENGTH OF INJECTION MOLDED COMPONENTS | 472 |
| <i>Alexander Geyer, Christian Bonten</i> | |
| THE USE OF MICROMECHANICAL MODELS TO PREDICT FIBER REINFORCED PLASTICS | 477 |
| <i>Fabian Willems, Christian Bonten</i> | |

VOLUME 2

| | |
|---|-----|
| EXPERIMENTAL INVESTIGATION AND IMPROVED MODELING OF THE MELTING PROCESS IN SINGLE-SCREW EXTRUDERS WITH A GROOVED PLASTICIZED BARREL | 482 |
| <i>Jochen Kettemann, José Antonio Avila-Alfaro, Christian Bonten</i> | |
| DIRECT VISUALIZATION OF CAVITY FILLING AND DEMOLDING PHENOMENA THROUGH TEXTURED GLASS BLOCK | 487 |
| <i>Chenyang Wang, Shigeru Owada, Hidetoshi Yokoi</i> | |
| MECHANICAL PROPERTY MODEL FOR FIBER FILLED THERMOPLASTICS INCORPORATING SURFACE TENSION | 488 |
| <i>Matthias Bruchmüller, Michael Koch, Julius Geis</i> | |
| TAILORED MICROSTRUCTURES AND PROPERTIES OF MICROINJECTION MOULDED ISOTACTIC POLYPROPYLENE/POLY (ETHYLENE TEREPHTHALATE) BLENDS | 494 |
| <i>Zhongguo Zhao, Hongwen Sun, Pingping Wu, Qi Yang</i> | |
| INVESTIGATION OF THE MELT QUALITY OF A WAVE SCREW IN A GROOVED PLASTICIZING ZONE WITH A HIGH SPECIFIC THROUGHPUT RATE | 495 |
| <i>Philipp Thieleke, Timo Röppe, Christian Bonten</i> | |
| INVESTIGATION OF RESIDENCE TIME DISTRIBUTION OF DIFFERENT SCREW-BARREL CONCEPTS VIA ULTRASOUND IN SINGLE-SCREW EXTRUSION | 499 |
| <i>Philipp Thieleke, Christian Bonten</i> | |
| EFFECTS OF PELLET CHARACTERISTICS AND FEED ZONE DESIGN ON THE OUTPUT OF GROOVED-FEED EXTRUDERS AT HIGH SCREW SPEEDS | 504 |
| <i>Oliver Tim Kast, Markus Koch, Christian Bonten</i> | |
| INTEGRATION OF ELECTROCHROMIC DEVICES IN PLASTIC PARTS BY INJECTION MOULDING | 509 |
| <i>Viola Sauer, Joachim Schmieders, Hans-Peter Heim</i> | |
| SMART DATA ANALYSIS FOR OPTIMIZED MANUFACTURING OF POWDER COATINGS ON CO-ROTATING TWIN SCREW EXTRUDERS | 510 |
| <i>Sophie Pachner, Jürgen Miethlinger</i> | |
| INVESTIGATIONS OF STARVED-FED GROOVED BARREL SINGLE SCREW EXTRUDERS IN INDUSTRY-STANDARD OUTPUT RANGES | 515 |
| <i>Juergen Miethlinger, Christian Marschik</i> | |
| PELLETIZE CONDITION DEPENDENCE OF INJECTION MOLDED ARTICLE OF RECYCLE PLASTIC | 516 |
| <i>Aya Tominaga, Nozomi Takenaka, Natsumi Yamasaki, Ryoko Nakano, Hiroshi Sekiguchi, Tetsunari Michiue, Shunsuke Sugao, Shigeru Yao</i> | |
| MECHANICAL CHARACTERIZATION OF FRONTAL AND FLOWING WELD LINES IN INJECTION-MOLDED SHORT FIBER-REINFORCED THERMOPLASTICS | 517 |
| <i>Mohamed Beshar Baradi, Gilles Régnier, Camilo Cruz</i> | |
| VISUALIZATION ANALYSIS ON RECIPROCATING PLASTICATION PROCESS OF GLASS FIBER REINFORCED RESIN BY GLASS-INSERTED HEATING CYLINDER | 522 |
| <i>Sai Ma, Hidetoshi Yokoi</i> | |
| IMPROVEMENT OF THE REPRODUCTION ACCURACY OF A DEFINED POLE LENGTH OF INJECTION MOLDED ENCODER WHEELS | 523 |
| <i>Katharina Kurth, Dietmar Drummer</i> | |
| CAPABILITY DATABASE OF INJECTION MOULDING PROCESS-REQUIREMENTS FOR WIDER SUITABILITY AND HIGHER ACCEPTANCE | 528 |
| <i>Srinivasa Murthy Boorla, Tobias Eifler, Jens Dines Obel Jepsen, Thomas J Howard</i> | |
| KNOWLEDGE-BASED MATERIAL SELECTION FOR INJECTION-MOLDED, THERMOPLASTIC PARTS | 529 |
| <i>Alexander Porsch, Johannes Wortberg, René Andrae, Peter Köhler</i> | |
| THE BEHAVIOR OF BULK SOLIDS IN THE SOLIDS CONVEYING ZONE OF SMOOTH BARREL SINGLE SCREW EXTRUDERS: FRICTION, BULK DENSITY AND PRESSURE ANISOTROPY | 534 |
| <i>Christian Kneidinger, Gernot Zitzenbacher, Manuel Längauer, Stefan Schuschnigg, Jürgen Miethlinger</i> | |
| NUMERICAL ANALYSIS OF THE FOUNTAIN FLOW INSTABILITY | 535 |
| <i>Tim Smit, M. A. Hulsen, P. D. Anderson</i> | |
| IN-SITU X-RAY ANALYSIS DURING FLASH DSC EXPERIMENTS: STUDY OF ISOTHERMAL CRYSTALLIZATION AND PHASE TRANSFORMATION OF POLYAMIDE 12 | 536 |
| <i>Fabio Paolucci, Leon E. Govaert, Gerrit W. M. Peters</i> | |
| FLOW VISUALIZATION OF THIN-WALL INJECTION MOLDING AND EFFECT OF MOLD COATINGS | 537 |
| <i>Davide Masato, Maksims Babenko, Giovanni Lucchetta, Ben Whiteside</i> | |
| THERMOFORMING – DETERMINING TEMPERATURE PROFILES ACROSS SHEET THICKNESS BY PYROMETRIC MEASUREMENTS | 538 |
| <i>Benjamin Neubig, Christian Bonten</i> | |
| INFLUENCE OF HYGRO-THERMAL LOADS ON THE DURABILITY OF THERMOPLASTIC-POLYURETHANE-STEEL-HYBRIDS | 543 |
| <i>Alejandro Puentes-Parodi, Leandro Ariel Santoro, Michael Gehde, Andreas Leuteritz, Ines Kuehnert</i> | |
| MORPHOLOGY-PROPERTY BEHAVIOR OF SEMI CRYSTALLINE POLYMERS IN INJECTION MOLDED PARTS | 548 |
| <i>Yvonne Spörer, Carolina Blanco, Ines Kuehnert, M. Zimmermann, M. Berger</i> | |
| SHRINKAGE, WARPAGE AND RESIDUAL STRESSES OF INJECTION MOLDED PARTS | 553 |
| <i>Tristan Koslowski, Christian Bonten</i> | |

| | |
|--|-----|
| A CONCEPT OF AN INJECTION COMPRESSION MOULD FOR NON-INVASIVE ULTRASOUND TOMOGRAPHIC TEMPERATURE MEASUREMENTS | 558 |
| <i>Jens Wipperfurth, Christian Hopmann</i> | |
| MICROINJECTION MOLDING OF POLYPROPYLENE/MULTI-WALLED CARBON NANOTUBES NANOCOMPOSITES | 562 |
| <i>Shengtai Zhou, Andrew Hrymak, Musa Kamal</i> | |
| MICROINJECTION MOLDING OF CARBON FILLED POLYPROPYLENE NANOCOMPOSITES: THE EFFECT OF FILLER TYPE ON ELECTRICAL AND MORPHOLOGICAL PROPERTIES OF MICRO-MOLDINGS | 563 |
| <i>Shengtai Zhou, Andrew Hrymak, Musa Kamal</i> | |
| CHARACTERIZATION OF BULK MATERIALS FOR SINGLE SCREW EXTRUSION BY MEANS OF FLUIDIZATION TESTING | 564 |
| <i>Matthias Dungen, Zhibin Li, Michael Koch</i> | |
| COMPARISON OF DIFFERENT ULTRASONIC METHODS FOR WELD LINE CHARACTERIZATION | 569 |
| <i>Peter Fey, Marc Kreutzbruck</i> | |
| STUDY OF THE FACTORS AFFECTING HEATING MECHANISM IN ULTRASOUND MICROINJECTION MOULDING | 570 |
| <i>Maksims Babenko, Ben Whiteside, Mert Gulcur, Davide Masato</i> | |
| EVALUATION OF PHYSICAL PROPERTIES AND SURFACE MICROSTRUCTURES REPLICATION OF LIQUID SILICONE RUBBERS OBTAINED BY REACTIVE INJECTION MOLDING | 571 |
| <i>Hiroshi Ito, Taisuke Satoh, Akira Ishigami, Akihiko Nemoto</i> | |
| DEVELOPMENT OF A NEW MEASUREMENT CONCEPT FOR THE PROCESS-ORIENTED CHARACTERIZATION OF RHEOLOGICAL MATERIAL PROPERTIES | 572 |
| <i>Michael Burgfeld, Johannes Wortberg</i> | |
| PREPARATION AND MICROINJECTION MOLDING OF POLYOXYMETHYLENE/MOLYBDENUM DISULFIDE NANOCOMPOSITE | 577 |
| <i>Yinghong Chen, Sen Yang, Chaonan Yang, Qi Wang</i> | |
| EFFECT OF SCREW DESIGN ON FIBER BREAKAGE AND DISPERSION OF FRTP IN INJECTION MOLDING | 578 |
| <i>So Shimokusuzono, Akira Inoue, Tatsuya Tanaka</i> | |
| MEASUREMENT OF TWO-DIMENSIONAL TEMPERATURE DISTRIBUTIONS INSIDE FILLING MELTS ALONG CROSS-SECTION OF CAVITY USING INTEGRATED THERMOCOUPLE SENSOR | 579 |
| <i>Hidetoshi Yokoi, Shouma Ishida, Norimichi Masuda, Takehiro Yamada</i> | |
| INVESTIGATION OF THE RELATIONSHIP IR HEATING AND INJECTION MOLDING PARAMETERS OF COMPOSITE LAMINATES WHICH SHAPED BY OVERMOLDING TECHNIQUE | 580 |
| <i>Gurcan Mert Gulsozlu, Yavuz Emre Yagci, Burcu Girginer, Mehmet Ozgur Seydibeyoglu</i> | |
| CONSTRUCTION OF A PIPE SUPPORT WITH OVERMOULDED METAL INSERT | 596 |
| <i>Karsten Anger, Christoph Lakemeyer, Ella Lochbaum, Mark Haksteter</i> | |
| FIBER LENGTH REDUCTION DURING INJECTION MOLDING | 597 |
| <i>Elmar Moritzer, Gilmar Heiderich, Andre Hirsch</i> | |
| WASTE HEAT UTILIZATION FOR GRANULATE PREHEATING IN EXTRUSION PROCESSES TO INCREASE ENERGY EFFICIENCY | 602 |
| <i>Fabian Baumgarten, Johannes Wortberg</i> | |
| INVESTIGATION ON THE INFLUENCES OF INJECTION MOLDING PROCESS PARAMETERS ON THE SHORT-SHOT FILLING OF POLYMERIC MICRO FEATURES | 607 |
| <i>Abdelkhalik Mohamed Eladl, Guido Tosello, Aminul Islam, Rania Mostafa, Hassan Soltan, Hans Hansen</i> | |
| INJECTION MOULDINGS CONSISTING OF A THERMOSETTING PLASTIC AND AN ELASTOMER - CHARACTERISATION OF THE ADHESION MECHANISMS ON JOINED THERMOSETTING PLASTIC / ELASTOMER COMPOSITES | 608 |
| <i>Ulrich Heyne, Michael Gehde</i> | |
| A NEW JOINT PRODUCT MADE OF PCM AND PLASTIC FOR APPLICATION IN WATER-POWERED HEAT STORAGE SYSTEMS MANUFACTURED BY A COEXTRUSION PROCESS | 613 |
| <i>Michael Andretzky, Ulrich Gardemann, Johannes Wortberg</i> | |
| INFLUENCE OF PROCESSING PARAMETERS ON THE MORPHOLOGY OF CO-INJECTED FOAMED PARTS | 614 |
| <i>Katharina Wunderlich, Thomas Neumeyer, Volker Altstaedt</i> | |
| HYGROTHERMAL AGING AND EFFECT OF CORROSION IN POLYMER-METAL JOINTS | 615 |
| <i>Leandro Ariel Santoro, Jaime Alejandro Puentes Parodi, Ines Kuehnert</i> | |
| INFLUENCE OF REPROCESSING ON THE MECHANICAL AND THERMAL PROPERTIES OF POLYPROPYLENE | 616 |
| <i>Adriana Martinelli Catelli Catelli, Amanda Marques Venâncio</i> | |
| EXPERIMENTAL ANALYSIS OF CONFORMAL COOLING IN SLM PRODUCED INJECTION MOULDS: EFFECTS ON PROCESS AND PRODUCT QUALITY | 617 |
| <i>Tim Evens, Wim Six, Jozefien De Keyzer, Frederik Desplentere, Albert Van Bael</i> | |
| HIGHLY FILLED SUSPENSIONS WITH ZIRCONIA POWDERS: ASSESSMENT AND CONTROL OF THE SURFACE CHEMISTRY | 622 |
| <i>Marie-Camille Auscher, Philippe Cassagnau, René Fulchiron, Thomas Périé</i> | |

| | |
|---|-----|
| EXTRUSION-ULTRASOUND ON POLYETHYLENE TEREPHTHALATE AND POLYCARBONATE COMPOSITE FROM RECYCLED MATERIALS | 623 |
| <i>Antonio Sanchez-Solis, Vianney Revilla, Maria Corcuera, Octavio Manero</i> | |

S07 – ELASTOMER MATERIALS AND PROCESSING

| | |
|---|-----|
| CHALLENGES IN RUBBER PROCESSING: LEARNING FROM GAME THEORY AND COMPLEX SYSTEMS | 624 |
| <i>Gert Heinrich, Klaus Werner Stöckelhuber, Sven Wiessner, Amit Das</i> | |
| NOVEL SILICONE THERMOPLASTIC ELASTOMERS WITH TAILORED PERMEATION PROPERTIES | 625 |
| <i>Gisbert Riess, Katrin Berger, Natascha Andraschek</i> | |
| EVALUATION OF THE CROSSLINKING DENSITY AND THE MECHANICAL PROPERTIES OF SILICONE ELASTOMERS FILLED WITH BARIUMTITANATES OF DIFFERENT PARTICLE SIZES AS DIELECTRIC ELASTOMERS | 626 |
| <i>Andreas Ziegmann, Dirk W Schubert</i> | |
| ANALYSIS OF THE EXTRUSION PROCESS OF SILICONE RUBBER | 627 |
| <i>Fabian Verheyen, Hans-Peter Heim</i> | |
| MORPHOLOGY-PROPERTY-RELATIONSHIPS OF SEBS/PP COMPOUNDS FOR MEDICAL APPLICATION | 628 |
| <i>Christin Kiehle, Sven Wiessner, Stefan Roth</i> | |
| SIMULATIVE AND EXPERIMENTAL INVESTIGATION OF RAPID HEAT CYCLE MOLDING FOR RUBBERS | 633 |
| <i>Thomas Hutterer, Carina Mager, Gerald Roman Berger, Michael Andreas Fasching, Gernot Alois Pacher, Walter Friesenbichler</i> | |
| NOVEL POLYURETHANE ELASTOMERIC COMPOSITES REINFORCED WITH ALUMINA, ARAMID, AND POLY(P-PHENYLENE-2,6-BENZOBISOXAZOLE) SHORT FIBERS, DEVELOPMENT AND CHARACTERIZATION OF THE THERMAL AND DYNAMIC MECHANICAL PROPERTIES | 638 |
| <i>Adam Pearson, Hani Naguib</i> | |
| A NEW CLASS OF THERMOPLASTIC ELASTOMERS VIA ATOM TRANSFER RADICAL POLYMERIZATION AND “CLICK” CHEMISTRY | 639 |
| <i>Nikhil Kumar Singha</i> | |
| HIGH PERFORMANCE THERMOPLASTIC VULCANIZATES BASED ON CARBOXYLATED ACRYLONITRILE BUTADIENE RUBBER AND POLYAMIDE 12 | 640 |
| <i>Tuhin Chatterjee, Debdipta Basu, Amit Das, Sven Wiessner, Gert Heinrich, Kinsuk Naskar</i> | |
| INFLUENCE OF AGEING ON THE STRUCTURE-PROPERTY RELATIONSHIP OF FKM, VMQ AND EPDM RUBBER SEALS | 641 |
| <i>Eshwaran Subramani Bhagavatheswaran, Sven Wiessner, Matthias Jaunich, Dietmar Wolff</i> | |
| HANSEN SOLUBILITY PARAMETERS AS A TOOL TO EVALUATE THE COMPATIBILITY POTENTIAL OF RUBBER PROCESS OILS (DAE, TDAE, MES, AND NAP) | 642 |
| <i>Negin Farshchi, Ali Abbasian</i> | |
| EVALUATION OF THE INFLUENCE OF CROSSLINK DENSITY AND PENETRANT SIZE ON THE DIFFUSION PROPERTIES OF SILICONE OILS INTO SILICONE ELASTOMERS | 643 |
| <i>Jonas Daenicke, Dirk W. Schubert, Mikael Hedenqvist, Erik Linde, Thomas Sigl, Raymund E. Horch</i> | |
| EXPERIMENTAL STUDY ON THE BEHAVIOR RESPONSE FOR THE CR / NR HYBRID RUBBER DAMPER SUBJECTED TO A CYCLIC LOADING IN COMPRESSION | 648 |
| <i>Yung-Chuan Chiou</i> | |
| APPLICATION OF FUNCTIONAL MAGNESIUM-BASED NANOMATERIALS IN ROOM TEMPERATURE VULCANIZED SILICON RUBBER COMPOSITE | 649 |
| <i>Zhiqi Liu, Lijuan Li, Yunfa Chen, Andreas Leuteritz, Udo Wagenknecht, Na Li, Lianmin Ji, Feng Nie</i> | |
| TWO-COMPONENT INJECTION MOULDING OF THERMOPLASTICS WITH THERMOSET RUBBERS: THE EFFECT OF THE MOULD TEMPERATURE DISTRIBUTION | 650 |
| <i>Gert-Jan Bex, Wim Six, Jozefien De Keyser, Frederik Desplentere, Albert Van Bael</i> | |
| NANO SILICA FROM RICE HUSK: HOW TO SOLVE AN ENVIRONMENTAL PROBLEM THROUGH SBR | 655 |
| <i>Pablo Raimonda, Daniel Mosca, Ana Ines Lesa, Carlos Mantero</i> | |
| THE SYNTHESIS AND CHARACTERIZATION OF SILANE COUPLING AGENTS TO INCREASE SILICA FILLER CONTENT IN STYRENE-BUTADIENE RUBBER WET MASTER BATCH FOR ALL-SEASON AUTOMOBILE TIRES | 656 |
| <i>Jun Choi, Ji Hye Choi, Bo Ram Lee, Jung Soo Kim, Si-Hoon Jang, No-Hyung Park, Dong Hyun Kim</i> | |

S08 – NANOCARBON BASED COMPOSITES, WITH CNPCOMP2017

| | |
|---|-----|
| MECHANICAL PROPERTIES OF CELLULOSE NANOFIBERS- GRAPHENE OXIDE BIOCOMPOSITE | 657 |
| <i>Hanieh Mianehow, Lars Berglund</i> | |
| FATIGUE AND STRUCTURAL HEALTH MONITORING OF DELAMINATION IN COMPOSITE MATERIALS | 658 |
| <i>Oleksandr Kravchenko, Diego Pedrazzoli, Ica Manas-Zloczower</i> | |
| ORIENTATION DEVELOPMENT OF NANOTUBES DURING PROCESSING OF POLYMER NANOCOMPOSITES | 659 |
| <i>Samuel Kenig, Reshef Tenne, Eyad Gomid</i> | |

| | |
|---|-----|
| NANOTUBES IN IMMISCIBLE POLYMER BLENDS: THREE STUDIES | 660 |
| <i>Brian Grady</i> | |
| ENGINEERING GRAPHENE WITH POLYMERS FOR THE PREPARATION OF NANOCOMPOSITES | 661 |
| <i>Noelia Rubio, Heather Au, Milo S. P. Shaffer</i> | |
| TUNING THE PHASE SEPARATED MORPHOLOGY AND RESULTING ELECTRICAL CONDUCTIVITY OF CARBON NANOTUBE FILLED BLENDS WITH A RANDOM OR BLOCK COPOLYMER | 662 |
| <i>Paula Moldenaers, Avanish Bharati, Ruth Cardinaels</i> | |
| MECHANICAL AND ELECTRICAL PROPERTIES OF CARBON NANOPARTICLE MODIFIED EPOXY MATRIX WITH REGARD TO THE SIZE EFFECT | 663 |
| <i>Christian Leopold, Till Augustin, Thomas Schwebler, Jonas Lehmann, Wilfried V. Liebig, Bodo Fiedler</i> | |
| NEW INSIGHTS FROM THE OPTIMIZATION OF MELT MIXING PARAMETERS IN POLYPROPYLENE/MULTI-WALLED CARBON NANOTUBE NANOCOMPOSITES | 664 |
| <i>Valérie Lison, Marie Hurtgen, Nadir Kchit, Alicia Rul, Michaël Claes</i> | |
| CARBON NANOTUBE FIBRES, FIFTEEN YEARS OF PROGRESS WITH CHALLENGES AND PROSPECTS FOR THE FUTURE | 665 |
| <i>Alan Windle</i> | |
| UNDERSTANDING THE ENHANCEMENT OF YOUNG'S MODULUS OF MACROSCOPIC CARBON NANOTUBE FIBERS AFTER POLYMER INFILTRATION | 666 |
| <i>Juan José Vilatela, Bartolome Mas, Alfonso Monreal-Bernal, Hangbo Yue, Haiqin Zhang</i> | |
| POLYURETHANE COMPOSITE SHEETS INCORPORATING BNNTS AND CNTS AT HIGH LOADING: MORPHOLOGICAL, MECHANICAL AND ELECTRICAL CHARACTERIZATION AND ADVANTAGES OF THE FABRICATION METHOD | 675 |
| <i>Yadienka Martínez Rubi, Behnam Ashrafi, Michael B. Jakubinek, Christa Homenick, Michael Barnes, Daesun Park, Keun Su Kim, Christopher Kingston, Mark Plunkett, Steven Walker, Benoit Simard</i> | |
| CHALLENGES TO THE INDUSTRIAL MELT-PROCESSING OF CONDUCTIVE PLASTICS | 676 |
| <i>Gabriel Y. H. Choong, Davide S. A. De Focatiis, Mark J. Lidgett, Matthew J. Thornton, Mike J. Clifford</i> | |
| OPTIMAL PERFORMANCE OF NANO-CARBON POLYMER COMPOSITE: DIMENSIONALITY MATTERS | 681 |
| <i>Roey Nativ, Oren Regev</i> | |
| LONGER SINGLE-WALLED NANOTUBES FOR TOUGHER COMPOSITES – SOLUTION PROCESSING AND ASSEMBLY | 682 |
| <i>Adam J. Clancy, David B. Anthony, Milo S. P. Shaffer</i> | |
| THE INFLUENCE OF THERMAL TREATMENTS ON DIELECTRIC BEHAVIORS OF CARBON NANOTUBES-BATIO₃ HYBRIDS REINFORCED POLYVINYLIDENE FLUORIDE COMPOSITES | 687 |
| <i>Benhui Fan, Fahmi Bedoui, DeLong He, Jinbo Bai</i> | |
| ULTRASONIC PROCESSING OF MULTIFUNCTIONAL EPOXY COMPOSITE REINFORCED BY LOW-COST MWNT NANOPAPER | 688 |
| <i>Jose M Castro</i> | |
| RHEOLOGICAL AND DYNAMIC MECHANICAL BEHAVIOR OF EPOXY RESINS FILLED WITH MULTIWALLED CARBON NANOTUBES AND GRAPHENE-BASED NANOPARTICLES | 689 |
| <i>Maria Rossella Nobile, Salvatore Rosolia, MariaLuigia Raimondo, Carlo Naddeo, Liberata Guadagno</i> | |
| RAPID QUANTITATIVE MAPPING OF MULTI-WALLED CARBON NANOTUBE CONCENTRATION IN NANOCOMPOSITES | 690 |
| <i>Sandra J. Fisher, Milo S. P. Shaffer</i> | |
| ELECTRICALLY CONDUCTING CNT/POLYMER COMPOSITES TOWARDS 3D-PRINTED ELECTRONICS | 691 |
| <i>Emelie Andersson, David Kiefer, Anja Lund, Christian Müller</i> | |
| MORPHOLOGY AND MECHANICAL PROPERTIES OF ELEMENTAL SULFUR REINFORCED NYLON-12 / MULTI-WALLED CARBON NANOTUBES (MWCNTS) COMPOSITES | 692 |
| <i>Jena Kishore, Saeed M Alhassan</i> | |
| MECHANICAL PROPERTIES OF CARBON MONOXIDE REDUCED GRAPHENE-POLYAMIDE-6 NANOCOMPOSITES PREPARED BY MELT-MIXING | 693 |
| <i>Marcian Kok Peng Lee, Michael Czajka, Robert Shanks, Fugen Daver</i> | |
| EFFECT OF MIXING SEQUENCE ON THE FIBRILLATION OF THERMO TROPIC LIQUID CRYSTALLINE POLYMER IN THE BLEND SYSTEM IN PRESENCE OF GRAPHENE | 698 |
| <i>Adhikary Munesh Chandra, Rath Sanjit Kumar, M. H. Priyadarshini, Das Chapal Kumar</i> | |
| EVALUATION OF THE FRACTURE RESISTANCE OF EPOXY-CARBON NANO-COMPOSITES | 699 |
| <i>Muhammad A. S. Anwer, Hani Naguib</i> | |
| IN-SITU POLYMERIZATION OF POLY (BUTYLENE TEREPHTHALATE) IN PRESENCE OF GRAPHENE-RELATED MATERIALS: EFFECTS OF NANOPARTICLES STRUCTURE AND DEFECTIVENESS ON CRYSTALLINITY AND THERMAL CONDUCTIVITY OF THE RELEVANT NANOCOMPOSITES | 700 |
| <i>Samuele Colonna, Maria Del Mar Bernal, Orietta Monticelli, Julio Gomez, Chiara Novara, Guido Saracco, Alejandro Jesus Müller, Guoming Liu, Dujin Wang, Alberto Fina</i> | |
| EFFECT OF UV-ENHANCED OXIDATION ON TENSILE STRENGTH OF CARBON NANOFIBER REINFORCED POLYAMIDE 11 | 701 |
| <i>Kazuki Enomoto, Takumi Inaba, Yukiya Takahashi</i> | |
| STRONGER CEMENT | 702 |
| <i>Oren Regev, Roey Nativ</i> | |
| HYBRID NANOCOMPOSITE AS STRAIN SENSOR ON THE BASE OF SBS/CNT/RGO | 703 |
| <i>Samira Haghshenas, Milad Mehranpour, Saeed Bazgir</i> | |

| | |
|---|-----|
| DEVELOPMENT OF POLYMER COMPOSITES CONTAINING NANO-CARBON MATERIALS BY THE HIGH PRESSURE FLUID MIXING METHOD | 704 |
| <i>Shin-Ichi Kihara, Yusuke Tsukuda, Masao Asada, Shigeki Takishima</i> | |
| INFLUENCE OF CARBON PARTICLE DIMENSION ON FORMATION OF THE FILLER NETWORK IN A POLYMER MELT | 708 |
| <i>Dirk Lellinger, Konrad Hilarius, Michael Thomas Müller, Petra Pötschke, Ingo Alig</i> | |
| STRATEGIES FOR CARBON NANOTUBES INCORPORATION IN STRUCTURAL COMPOSITES | 709 |
| <i>Nadir Kchit</i> | |
| FREESTANDING MESOPOROUS THREE-DIMENSIONAL GRAPHENE BULK PREPARED BY CHEMICAL VAPOR DEPOSITION ON SACRIFICIAL CU NANOPOWDER SINTER TEMPLATES | 710 |
| <i>Yuxiao Ma, Jianhua Liu, Mei Yu, Songmei Li</i> | |
| THERMALLY CONDUCTIVE MICROCELLULAR POLYMER NANOCOMPOSITES OF GRAPHENE NANOPATELETS (GNP) | 711 |
| <i>S. Mahdi Hamidinejad, Raymond K. M. Chu, Tobin Filleter, Chul B. Park</i> | |
| ANTISTATIC AND FLAME RETARDANT ROTOMOULDABLE POLYMER GRAPHITE NANOCOMPOSITES | 712 |
| <i>Washington Mhike</i> | |
| FUNCTIONAL NANOCOMPOSITES BASED ON CELLULOSE AND CARBON NANOTUBES | 713 |
| <i>Alireza Hajian, Lars Berglund</i> | |
| COMPATIBILIZING OF PP/NBR IMMISCIBLE BLEND USING MODIFIED NANO GRAPHENE OXIDE | 714 |
| <i>Hamid Khodabakhshi, Milad Mehranpour, Fatemeh Goharpey</i> | |
| POLYETHYLENE-GRAPHITE COMPOSITES: COMPARING CONE CALORIMETER AND MICRO-FLAMMABILITY TEST RESULTS | 715 |
| <i>Walter Wilhelm Focke, Washington Mhike, Cebolenkosi Mbonane, Bonex Wakufwa Mwakikunga</i> | |
| POLAR POLYMORPHS CHARACTERIZATION BY SYNCHROTRON X-RAY DIFFRACTION OF ANNEALED CNT FIBRE/PVDF COMPOSITES | 716 |
| <i>Juan P. Fernandez-Blazquez, Alfonso Monreal-Bernal, Juan J. Vilatela</i> | |
| IMPROVING THE PROCESSABILITY OF GRAPHENE NANOPATELETS IN POLYAMIDE 6 DURING MELT COMPOUNDING EXTRUSION | 717 |
| <i>José Francisco Blanco-Villalba, Imanol Recio-Erquicia, Julio Gómez-Cordón, Christof Hübner</i> | |
| FABRICATION AND PROPERTIES OF ELECTRICALLY CONDUCTIVE BICOMPONENT FIBER | 721 |
| <i>Dirk Lellinger, Daniel Kunkel, Sebastian Stock, Benjamin Weise, Jens Mroszczok, Ingo Alig</i> | |
| CARBON NANOPARTICLE SURFACE MODIFICATION FOR THERMOPLASTIC POLYMERS | 722 |
| <i>Benjamin Schumm, Thomas Abendroth, Holger Althues</i> | |
| AN INVESTIGATION ON CURE KINETICS OF EPOXY/MWCNTS NANOCOMPOSITES THROUGH ISOTHERMAL CALORIMETRIC AND RHEOLOGICAL ANALYSES | 723 |
| <i>Mohammad Reza Saeb, Hadi Rastin</i> | |
| RHEOLOGICALLY DETERMINED THE ROLE OF NANOPARTICLE GEOMETRY ON THE MORPHOLOGICAL EVOLUTION OF ABA BLOCK COPOLYMERS | 724 |
| <i>Noushin Hasanabadi, Marco Lattuada, Behnaz Ranjbar, Hossein Nazockdast</i> | |
| SOLID-STATE CARBON-BASED TEXTILE SUPERCAPACITORS FOR ENERGY STORAGE APPLICATIONS | 725 |
| <i>Antonio J Paleo, P. Staiti, F. N. Ferreira, A. M. Rocha, F. Lufrano</i> | |
| THE EFFECT OF GRAPHENE FLAKE DIAMETER ON THE PERFORMANCE OF ANTI-CORROSION COATINGS | 726 |
| <i>Oana M Istrate, S. R. Gibbon, J. Moghal, P. M. Budd, I. A. Kinloch</i> | |
| NANOPROBE INVESTIGATIONS OF VISCOELASTIC BEHAVIOR IN ELASTOMERIC NANOCOMPOSITES | 727 |
| <i>Matthew David Eaton, Pavan V Kolluru, David William Collinson, David Delgado, Kenneth R Shull, L. Catherine Brinson</i> | |
| ADVANCED ELECTRICALLY CONDUCTIVE ADHESIVES FOR HIGH COMPLEXITY PCB ASSEMBLY | 728 |
| <i>Paulo E Lopes, Daniel Freitas, Duarte Moura, Maria Fernanda Proença, Hugo Figueiredo, Ricardo Alves, Maria Da Conceição Paiva</i> | |
| CONTINUOUS PRODUCTION OF CARBON NANOTUBE-GRAFTED QUARTZ FIBRES: EFFECT OF CARBON NANOTUBE LENGTH ON FIBRE/MATRIX ADHESION | 733 |
| <i>Hugo De Luca, David B. Anthony, Emile S. Greenhalgh, Alexander Bismarck, Milo S. P. Shaffer</i> | |
| BREAKING THE NANOFILLER LOADING/DISPERSION DICHOTOMY IN POLYMER NANOCOMPOSITES | 734 |
| <i>Giovanni Santagiuliana, Olivier T. Picot, Luca Rubinic, Maria Crespo, Harshit Porwal, Yan Li, Han Zhang, Nicola M Pugno, Ton Peijs, Emiliano Bilotti</i> | |
| THE EFFECT OF MODIFIED GRAPHENE VARIANTS ON PHYSICAL, MECHANICAL AND THERMAL PROPERTIES OF PP COMPOSITES | 735 |
| <i>Eleni Moschopoulou, Tim Gough, Adrian L. Kelly</i> | |
| MULTIFUNCTIONAL PROPERTIES OF CARBON NANOTUBE FIBRES | 736 |
| <i>Juan Carlos Fernández-Toribio, Álvaro Ridruejo, Juan José Vilatela</i> | |
| LIGHTWEIGHT METAL COMPOSITES REINFORCED BY SURFACE-DECORATED NANOCARBON | 737 |
| <i>Qianqian Li, Samaneh Nasiri, Michael Zaiser</i> | |
| ALIGNMENT STUDY OF CNT VEILS AND THE INFLUENCE ON THEIR COMPOSITES | 738 |
| <i>Eileen Brandley, Emile S. Greenhalgh, Milo S. P. Shaffer, Qianqian Li</i> | |

| | |
|---|------------|
| FUNCTIONALIZATION OF CARBON NANOTUBES (CNTS) BY USING DIFFERENT OXIDATIVE AGENTS AND CHARACTERIZATION WITH REGARD TO FUNCTIONALIZATION EFFICIENCY | 739 |
| <i>Katharina Kröning, Bodo Fiedler</i> | |
| UNIVERSAL CONTROL OF PYRO-RESISTIVE BEHAVIOUR FOR FLEXIBLE SELF-REGULATING HEATING DEVICES | 740 |
| <i>Yi Liu, Harshit Porwal, Ton Peijs, Emiliano Bilotti</i> | |
| PROCESS DEVELOPMENT FOR INDUSTRIALIZATION OF CNT ELECTRODES FOR ELECTRO ACTIVE POLYMERS ACTUATOR | 741 |
| <i>Ivica Kolaric, Carsten Glanz, Florian Bodny</i> | |
| DEVELOPMENT OF A COLORED GFRP WITH ANTISTATIC PROPERTIES | 742 |
| <i>Hauke Meeuw, Markus Radek, Bodo Fiedler</i> | |
| NANOSTRUCTURED GLASS FIBRE SENSOR YARNS FOR STRUCTURAL HEALTH MONITORING | 747 |
| <i>Michael Thomas Müller, Florian Hendrik Pötzsch, Niclas Wiegand, Uwe Gohs, Gert Heinrich</i> | |
| CHARACTERIZATION OF THE NUCLEATION EFFICIENCY OF CARBON NANOTUBES FOR POLYMER CRYSTALLIZATION..... | 748 |
| <i>Juergen E. K. Schawe</i> | |
| MORPHOLOGY AND MECHANICAL PROPERTIES OF ELEMENTAL SULFUR REINFORCED NYLON-12 / MULTI-WALLED CARBON NANOTUBES (MWCNTS) COMPOSITES | 749 |
| <i>Kishore Jena, Saeed Alhassan</i> | |
| NANOSCALE CHEMICAL IMAGING AS AN ADVANCED TOOL FOR CARBON NANOTUBE FIBRE NANOCOMPOSITE ENGINEERING..... | 750 |
| <i>Anastasiia Mikhailchun, Agnieszka Banas, Krzysztof Banas, Anna Borkowska, Mark B. H. Breese, Wojciech M. Kwiatek, Tong-Earn Tay</i> | |
| HIGHLY FILLED PP/GRAPHITE COMPOSITES: STUDY OF ELECTRICAL AND THERMAL CONDUCTIVITY AS WELL AS ADHESIVE JOINING | 751 |
| <i>Piotr Rzeczkowski, Martin Lucia, Andre Knapp, Anett Müller, Andreas Cohnen, Christian Hopmann, Thorsten Hickmann, Petra Pötschke, Beate Krause</i> | |
| POLYPROPYLENE NANO-GRAPHITE COMPOSITES OBTAINED BY AN ULTRASOUND TECHNIQUE AND MELT EXTRUSION..... | 752 |
| <i>Octavio Manero, Antonio Sanchez Solis</i> | |
| EFFECT OF FUNCTIONALIZATION ON THE THERMAL CONDUCTIVITY OF MULTILAYER GRAPHENE NANOCOMPOSITES..... | 753 |
| <i>Jia-Lin Tsai, Po-Ying Tseng</i> | |
| RATE EFFECTS IN THERMOGRAVIMETRIC ANALYSIS OF CARBON NANOTUBES | 754 |
| <i>Brian Grady</i> | |
| SYNERGISTIC EFFECTS OF GRAPHITE MIXTURES WITH DIFFERENT PARTICLE SIZES AND MORPHOLOGY ON THE ELECTRICAL AND THERMAL CONDUCTIVITY OF HIGHLY FILLED POLYPROPYLENE COMPOSITES | 755 |
| <i>Beate Krause, Andreas Cohnen, Piotr Rzeczkowski, Martin Facklam, Thorsten Hickmann, M. D. Bangert, A. Theodor, Christian Hopmann, Petra Pötschke</i> | |
| LOW PERCOLATION THRESHOLDS OF ELECTRICAL CONDUCTIVITY AND RHEOLOGY IN PC/SAN/MWCNT NANOCOMPOSITES | 756 |
| <i>Hasti Bizhani, Hossein Nazockdast, Azam Jalali Arani</i> | |
| INFLUENCE OF A SUPPLEMENTAL FILLER IN TWIN-SCREW EXTRUDED PP/CNT COMPOSITES USING MASTERBATCH DILUTION..... | 757 |
| <i>Michael Thomas Müller, Beate Krause, Bernd Kretzschmar, Petra Pötschke</i> | |
| THE INFLUENCE OF GRAPHENE NANOPLATELETS ON MECHANICAL AND SHAPE MEMORY PROPERTIES OF THERMOPLASTIC POLYURETHANE/ ACRYLONITRILE BUTADIENE STYRENE NANOCOMPOSITES..... | 762 |
| <i>Farzaneh Memarian, Abdolhossein Fereidoon, Hossein Ali Khonakdar</i> | |
| MONITORING POLYMER DIFFUSIVITY IN NANOCOMPOSITES BY NMR..... | 763 |
| <i>Roey Nativ, Ricardo M. F. Fernandes, Jing Dai, Matat Buzaglo, Maxim Varenik, Istvan Furo, Oren Regev</i> | |
| THE RELATIONSHIP BETWEEN MICROSTRUCTURE AND THE VAPOR SENSING BEHAVIORS OF MULTI-WALLED CARBON NANOTUBES FILLED POLYCARBONATE/POLYSTYRENE BLENDS | 764 |
| <i>Yilong Li, Jürgen Pionteck, Petra Pötschke, Brigitte Voit</i> | |
| COMPARATIVE STUDY OF ELECTRICAL PERCOLATION OF SINGLE-, MULTIWALLED AND BRANCHED CARBON NANOTUBES MELT MIXED IN DIFFERENT THERMOPLASTIC MATRICES | 765 |
| <i>Beate Krause, Carine Barbier, Karina Kunz, Petra Pötschke</i> | |
| MELT MIXED COMPOSITES OF POLYPROPYLENE WITH SINGLE WALLED CARBON NANOTUBES FOR THERMOELECTRIC APPLICATIONS: SWITCHING FROM P- TO N-TYPE BEHAVIOR BY ADDITIVE ADDITION..... | 766 |
| <i>Jinji Luo, Beate Krause, Petra Pötschke</i> | |
| MELT COMPOUNDING OF POLY(LACTIC ACID) WITH CARBON-BASED FILLERS: EFFECT ON CRYSTALLIZATION KINETICS | 771 |
| <i>Felice De Santis, Luciana D'Urso, Maria Rosaria Acocella, Roberto Pantani, Gaetano Guerra</i> | |
| HIGH PERFORMANCE ELECTROMAGNETIC WAVE ABSORBER DERIVED FROM MULTI LAYERED ASSEMBLY OF PC/PVDF BLENDS CONTAINING DIFFERENT FUNCTIONAL CONDUCTING AND MAGNETIC NANOMATERIALS | 772 |
| <i>Sourav Biswas, Suryasarathi Bose, Sujit Sankar Panja</i> | |

| | |
|---|-----|
| ELECTRICAL CONDUCTIVITY OF PVDF COMPOSITES MELT MIXED WITH MWCNTS HAVING DIFFERENT MORPHOLOGIES | 773 |
| <i>Karina Kunz, Beate Krause, Bernd Kretzschmar, Petra Pötschke</i> | |
| SYNERGETIC EFFECT OF CARBON NANOTUBES AND GRAPHENE NANOPATELETS ON THE FATIGUE CRACK GROWTH RATE OF EPOXY COMPOSITES | 774 |
| <i>Yi-Ming Jen, Kun-Yang Zheng</i> | |
| BIPOLYMER-CARBON NANOTUBE COMPOSITES | 775 |
| <i>Anna Sójka, Beate Krause, Petra Pötschke, Anastasia Elias</i> | |
| NANOFILLED EPOXY ADHESIVES: OPTIMIZATION OF THE RHEOLOGICAL PROPERTIES OF THE NANOFILLED FORMULATIONS | 776 |
| <i>Maria Rossella Nobile, Salvatore Rosolia, Luigi Vertuccio, Liberata Guadagno</i> | |

S09 – POLYMER MODIFICATION WITH IONIZING RADIATION

| | |
|---|-----|
| FUNCTIONALIZATION OF FLAX FIBRES BY RADIATION-GRAFTING | 777 |
| <i>Rodolphe Sonnier, Belkacem Otazaghine, Sophie Rouif</i> | |
| CONTROLLING OF RADIATION-INDUCED GRAFTING AT NANOSCALE FOR THE PREPARATION OF ADVANCED FUNCTIONAL MEMBRANES | 778 |
| <i>Olgun Güven</i> | |
| THE EFFECTS OF GAMMA IRRADIATION ON MORPHOLOGY AND PROPERTIES OF NANOCOMPOSITES BASED ON PHBV/PLA BLEND AND ORGANO-MODIFIED MONTMORILLONITE | 779 |
| <i>Mustapha Kaci, Idris Zembouai, Stéphane Bruzaud</i> | |
| INFLUENCE OF GAS ATMOSPHERE ON ELECTRON-INDUCED CYCLIZATION OF POLYACRYLONITRILE POWDER AT ELEVATED TEMPERATURE | 784 |
| <i>Michael Thomas Müller, Harald Brüning, Dieter Fischer, Uwe Gohs, Liane Häussler, Martin Kirsten, Mikhail Malanin</i> | |
| MELT SPINNING AND CHARACTERIZATION OF MATRIX BLEND BASED ON POLYPROPYLENE AND ETHYLENE-OCTENE COPOLYMERS MODIFIED BY HIGH ENERGY ELECTRONS | 785 |
| <i>Samer Al Rahhal, Harald Bruenig, Uwe Gohs, Gert Heinrich</i> | |
| INLINE EDGE LAYER MODIFICATION OF THREE DIMENSIONAL SHEET MOLDING COMPOUNDS | 786 |
| <i>Carsten Zschech, Mathias Pech, Michaela Gedan-Smolka, Uwe Gohs, Gert Heinrich</i> | |
| DEVELOPMENT AND INVESTIGATION OF HIGH PERFORMANCE FIRE RETARDANT POLYPROPYLENE COMPOSITES | 787 |
| <i>Dan Xiao, Uwe Gohs, Udo Wagenknecht, Brigitte Voit, De-Yi Wang</i> | |
| POLYMER ELECTROLYTE MEMBRANES FROM PRE-IRRADIATION INDUCED GRAFT COPOLYMERIZATION ON ETFE | 788 |
| <i>Xi Ke, Xin Li, Marco Drache, Uwe Gohs, Sabine Beuermann</i> | |
| DC HIGH POWER ELECTRON ELV ACCELERATORS FOR POLYMER TREATMENT | 789 |
| <i>Nikolay Kuskonov, Rustam Salimov, Sergey Fadeev, Petr Nemytov, Yuri Golubenko, Alexey Korchagin, Alexey Semenov, Alexander Lavruchin, Dmitry Kogut, Evgeny Domarov, Denis Vorobiev, Victor Cherepkov</i> | |
| INFLUENCE OF REACTIVE PROCESSING ON NANOMECHANICAL PROPERTIES OF POLYAMIDE 6 AND ITS BLENDS | 790 |
| <i>Shib Shankar Banerjee, Andreas Janke, Uwe Gohs, Gert Heinrich</i> | |
| PROCESS-INDUCED MORPHOLOGY AND MECHANICAL PROPERTIES OF HD-PE | 791 |
| <i>Regine Boldt, Uwe Gohs, Udo Wagenknecht, Manfred Stamm</i> | |
| RADIATION CROSS-LINKING TECHNOLOGY FOR EXTRUDED PRODUCTS | 792 |
| <i>Sophie Rouif, Henry Mitschak</i> | |

S10 – NANO- AND MICROSTRUCTURED SURFACES AND FILMS

| | |
|--|-----|
| SUPERHYDROPHOBIC POLYMER COATINGS: EFFECT OF COMPOSITION AND THERMODYNAMICS ON THE SURFACE MORPHOLOGY | 793 |
| <i>Joey Mead, Tehila Nahum, Hanna Dodiuk, Samuel Kenig, Artee Panwar, Carol Barry</i> | |
| BIO-INSPIRED TEXTURED COMPOSITE SURFACES WITH ABRASION RESISTANCE AND HIGH FRICTION PROPERTIES | 794 |
| <i>Ali O. Anwer, Zahra S. Bagheri, Geoff Ferni, Tilak Dutta, Hani Naguib</i> | |
| PHYSICAL COLORING OF MULTILAYERED ELASTOMERIC STRUCTURES | 795 |
| <i>Maayan Dagan, Naum Naveh</i> | |
| DETERMINATION OF INFLUENCING FACTORS ON ADHESION AND SURFACE QUALITY IN UV-BASED IN-MOLD COATING PROCESS OF BMC | 796 |
| <i>Larissa Kutscha, Stefan Apelt, Carsten Koch, Christian Hopmann</i> | |
| MULTIFUNCTIONAL AND RESPONSIVE SURFACES USING NANOSTRUCURED POLYMER BRUSHES | 801 |
| <i>Petra Uhlmann, Alexander Münch, Stefan Adam, Sebastian Rauch</i> | |
| CONFINEMENT INDUCED ORDERING OF PHASE SEGREGATED DOMAINS IN POLYMER BLEND THIN FILM | 802 |
| <i>Nandini Bhandaru, Rabibrata Mukherjee</i> | |
| MORPHOLOGICAL STABILITY OF NANOPARTICLES CONTAINING POLYMER BLENDS AND BILAYER THIN FILMS | 803 |
| <i>Anuja Das, Rabibrata Mukherjee</i> | |

| | |
|---|-----|
| SUPERHYDROPHOBIC AND SUPEROLEOPHILIC MESHES COATED BY PDMS/ZNO NANOCOMPOSITES FOR OIL/WATER SEPARATION | 804 |
| <i>Beleta Bolvardi</i> | |
| POLYETHYLENE SURFACE MODIFICATION ABILITY OF SIDE CHAIN CRYSTALLINE POLYMER AND SIDE CHAIN CRYSTALLINE BLOCK COPOLYMER | 805 |
| <i>Yuga Miho, Shigeru Yao, Ryoko Nakano, Hiroshi Sekiguchi</i> | |
| AN INVESTIGATION OF MORPHOLOGY AND CHEMICAL COMPOSITION OF WATER-REPELLENT FILMS BASED ON POLY(DIMETHYLSILOXANE)/TITANIUM DIOXIDE NANOCOMPOSITES | 806 |
| <i>Beleta Bolvardi</i> | |
| INFLUENCE OF PROCESSING METHOD AND PARAMETERS ON THE QUALITY OF COMPOSITE FILMS OF MONTMORILLONITE CLAY (MMT) AND POLY(VINYL ALCOHOL) (PVA) | 807 |
| <i>Jingjing Liu, Sonia Chavez, Montgomery Shaw, Luyi Sun</i> | |
| INVESTIGATING THE EFFECT OF SURFACE ENERGY OF CHITOSAN/TITANIUM DIOXIDE NANOCOMPOSITE FILMS ON THEIR ANTIBACTERIAL BEHAVIOR | 808 |
| <i>Mahdieh Raisi, Hossein Ali Khonakdar, Javad Seyfi</i> | |
| ASSESSMENT OF THE ROLE OF SURFACE MODIFICATION OF NANOSILICA ON THE WETTING BEHAVIOR OF THERMOPLASTIC POLYURETHANE SURFACES | 809 |
| <i>Nilofar Seyedani, Maryam Otadi, Javad Seyfi, Hossein Ali Khonakdar</i> | |
| THE POLYMERIZATION OF THE SIDE CHAIN CRYSTALLINE BLOCK COPOLYMER AND THE STUDY OF SUPER HYDRATION | 810 |
| <i>Koki Fukaya, Hiroshi Sekiguchi, Ryoko Nakano, Shigeru Yao</i> | |
| ALIGNMENT OF CARBON NANOPARTICLES IN COMPOSITES WITH ELECTRIC FIELDS | 811 |
| <i>Manuel Morais</i> | |
| POLYETHYLENE PLATING BY USING THE FUNCTION OF SIDE CHAIN CRYSTALLINE BLOCK COPOLYMER | 812 |
| <i>Tomonori Uchino, Ryoko Nakano, Hiroshi Sekiguchi, Shigeru Yao</i> | |
| BIO-INSPIRED HIERARCHICAL NANOCOMPOSITE FOAM FOR RAPID OIL/WATER SEPARATION | 813 |
| <i>Pavani Cherukupally, Wei Sun, Annabelle P. Y. Wong, Geoffery A. Ozin, Amy M. Bilton, Chul B. Park</i> | |

S11 – IN-LINE ANALYTICS AND PROCESS MONITORING

| | |
|--|-----|
| IN-SITU X-RAY STRUCTURE MEASUREMENTS OF POLYMERS DURING DIE-DRAWING | 814 |
| <i>Phil Coates, Yongfeng Men, Fin Caton-Rose, Glen Thompson, Zhiyong Jiang, Yuqing Lai</i> | |
| INLINE MELT HOMOGENEITY MEASUREMENT IN INJECTION MOLDING | 815 |
| <i>Bernhard Praher, Marvin Goldmann, Georg Steinbichler</i> | |
| NON-DESTRUCTIVE TESTING OF 3D-HYBRID COMPONENTS USING AIR-COUPLED ULTRASOUND | 820 |
| <i>Wolfgang Essig, Marc Kreutzbruck</i> | |
| MATERIAL CHARACTERIZATION IN THE INJECTION MOLDING PROCESS | 825 |
| <i>Alexander Geyer, Christian Bonten</i> | |
| NON-CONTACT INLINE MONITORING OF THERMOPLASTIC CFRP TAPE QUALITY USING AIR-COUPLED ULTRASOUND | 830 |
| <i>Wolfgang Essig, Peter Fey, Marc Kreutzbruck, S. Meiler</i> | |
| LOCAL DEFECT RESONANCE EXCITATION THERMOGRAPHY FOR DAMAGE DETECTION IN PLASTIC COMPOSITES | 835 |
| <i>Markus Rahammer, Marc Kreutzbruck</i> | |
| IN-LINE ANALYTICS OF THE CONTENT, THE DISPERSION AND THE NANOSTRUCTURATION PROCESS OF POLYMER NANOCOMPOSITES DURING EXTRUSION | 840 |
| <i>D. Fischer, B. Kretzschmar, J. Müller, S. Grosse, S. Kummer</i> | |
| STRUCTURE EVOLUTION DURING FILM BLOWING: AN EXPERIMENTAL STUDY USING IN-SITU SMALL ANGLE X-RAY SCATTERING | 841 |
| <i>Enrico Troisi, Martin Van Drongelen, Harm J. M. Caelers, Gerrit W. M. Peters</i> | |
| ENVIRONMENTAL STRESS CRACKING OF PE-HD INDUCED BY LIQUID MEDIA – FNCT TESTING | 842 |
| <i>Markus Schilling, Martin Böhning, Harald Oehler, Ingo Alig, Ute Niebergall</i> | |
| DETERMINATION OF THE FLOW AND CURING BEHAVIOR OF HIGHLY FILLED PHENOLIC INJECTION MOLDING COMPOUNDS BY MEANS OF SPIRAL MOLD | 843 |
| <i>Thomas Scheffler, Michael Gehde, Michael Spath, Peter Karlinger</i> | |
| CFRP PIPE INSPECTION BY USING AIR COUPLED ULTRASOUND | 848 |
| <i>Sebastian Joas, Wolfgang Essig, Florian Fröhlich, Marc Kreutzbruck</i> | |
| DEGRADATION OF BIMODAL DISTRIBUTION POLYPROPYLENE AND POLYETHYLENE DURING THE EXTRUSION PROCESS | 853 |
| <i>Hoda Bayazian, Frauke Reinders, Christian Goebel, Volker Schoeppner</i> | |
| DIELECTRIC ANALYSIS FOR ONLINE CURE MONITORING: CORRELATION WITH THERMAL AND RHEOLOGICAL PROPERTIES OF EPOXY RESINS | 854 |
| <i>Gökhan Bakis, Martin Demleitner, Aline Sanchez, Tobias Pflock, Alexander Chaloupka, Volker Alstädt</i> | |
| CAVITATION AND LAMELLAE FRAGMENTATION-RECONSTRUCTION OF ISOTACTIC POLYPROPYLENE DURING UNIAXIAL DRAWING: THE INFLUENCE OF ANNEALING | 855 |
| <i>Baobao Chang, Konrad Schneider, Gert Heinrich</i> | |

S12 – WELDING AND JOINING TECHNOLOGY

| | |
|--|-----|
| DESIGN OF MATERIAL ADAPTED JOINTS – POTENTIALS AND CHALLENGES IN JOINING FIBRE REINFORCED THERMOPLASTICS TO DISSIMILIAR MATERIALS AT THE EXAMPLE OF THERMOCLINCHING | 856 |
| <i>Maik Gude</i> | |
| MOLECULAR STRUCTURE OF REACTIVE POLYCARBONATE - AMINE INTERFACES CHARACTERIZED BY IR-SPECTROSCOPY AND DIFFERENTIAL SCANNING CALORIMETRY | 857 |
| <i>Cordelia Zimmerer, Lisa Ziegler, Liane Häußler, Andreas Janke, Gert Heinrich, Kerstin Arnhold</i> | |
| EFFECTS OF VIBRATION WELDING PROCESS PARAMETERS ON THE WELDABILITY OF THE THERMOPLASTICS | 862 |
| <i>Chapal Kumar Das, Munesh Chandra Adhikary, S Friedrich, Michel Gihde</i> | |
| ULTRASONIC WELDING OF POLYSTYRENE MICROINJECTED MOULDED COMPONENTS – PHYSIC-CHEMICAL AND MECHANICAL CHARACTERISATION | 863 |
| <i>Cristina Luminita Tuinea-Bobe, Nigel Smith, Ben R Whiteside, Phil D Coates</i> | |
| PREPARATION OF ULTRA-THIN METALLIC SUSCEPTOR STRUCTURES FOR ELECTROMAGNETIC INDUCTION HEATING | 864 |
| <i>Lisa Ziegler, Erik Kampert, Gert Heinrich, Cordelia Zimmerer, Andreas Janke</i> | |
| JOINING POLYCARBONATE - MANUFACTURING AND EVALUATION OF TRANSPARENT JOINTS USING AN INNOVATIVE, OBJECTIVE TEST METHOD | 869 |
| <i>Karoline Hofmann, Michael Gehde</i> | |
| CLINCHING AND TORSIONAL ULTRASONIC WELDING - AN INNOVATIVE PROCESS COMBINATION FOR JOINING METAL-POLYMER HYBRID STRUCTURES | 874 |
| <i>Eric Brueckner, Wolf Georgi, Michael Gehde, Peter Mayr</i> | |
| INFRARED WELDING OF CONTINUOUS FIBRE-REINFORCED THERMOPLASTICS – INVESTIGATIONS ON OVERLAPPING JOINTS | 879 |
| <i>Marios Constantinou, Michael Gehde</i> | |
| INVESTIGATION AND APPLICATION OF A GRAPHENE LAYER AS PARTICULATE SUSCEPTOR IN POLYMER HYBRID MATERIALS | 884 |
| <i>Cláudia Silva, Petra Pötschke, Frank Simon, Matthias Holzschuh, Jurgен Pionteck, Gert Heinrich, Sven Wießner, Cordelia Zimmerer</i> | |
| EFFECTS OF VIBRATION WELDING PROCESS PARAMETERS ON THE WELDABILITY OF THE THERMOPLASTICS | 889 |
| <i>Chapal Kumar Das</i> | |

S13 – POLYMER MATERIALS FOR MEDICAL APPLICATIONS

| | |
|---|-----|
| BIODEGRADABLE 3D PRINTED BONE ANCHORING BOLTS TO ENHANCE TENDON-BONE HEALING | 890 |
| <i>Ying-Chao Chou, Chien-Lin Chao, Shih-Jung Liu</i> | |
| PROPERTY DISTRIBUTION AND PROPERTY GRADIENT POLYMER PRODUCTS FOR ENHANCED FUNCTIONALITY | 891 |
| <i>Phil Coates, Fin Caton-Rose, Ben Whiteside, Dimitris Vgenopoulos, Karthik Nair, Brian Thomson, Micheal Hedbda, Glen Thompson, Pete Twigg, Yulia Ryabenkova, Anant Paradkar</i> | |
| OPTIMIZATION OF COLLAGEN EXTRACTION FROM VARIOUS CATTLE SPECIES HIDE BY COMPARATIVE METHODS | 892 |
| <i>Safiya Noorzai</i> | |
| INVESTIGATION OF IMMISCIBLE POLYMER BLENDS TO CONTROL DRUG RELEASE RATE OF POLYMERIC PHARMACEUTICAL COMPOUNDS | 893 |
| <i>Adrian Kelly, Ochegeinu Enokela, Tim Gough, Anant Paradkar</i> | |
| INJECTABLE HYDROGELS FOR CONTROLLED RELEASE DRUG DELIVERY | 894 |
| <i>Bana Shriky, Tim Gough, Adrian Kelly, Mohammad Isreb</i> | |
| TRANSPARENCY AND SUTURE ABILITY OF ALGINATE HYDROGEL REINFORCED NANOFIBER SCAFFOLDS | 895 |
| <i>Piotr Stafiej, Florian Küng, Friedrich E. Kruse, Thomas A. Fuchsluger, Dirk W. Schubert</i> | |
| INFLUENCE OF THE MOLAR MASS ON THE SUTURE RETENTION PROPERTIES OF POLYCAPROLACTONE | 896 |
| <i>Florian Küng, Piotr Stafiej, Thomas A. Fuchsluger, Friedrich E. Kruse, Dirk W. Schubert</i> | |
| FAILURE OF SILICONE BREAST IMPLANTS - NOVEL INSIGHTS ON THE MECHANICAL PROPERTIES OF IMPLANT SHELLS | 897 |
| <i>Dirk W. Schubert, Raymond E. Horsch, Jochen Kaschta, Jonas Daenicke, Bastian Walter, Michael Lämmlein, Siegfried Werner, Harald Von Hanstein</i> | |
| ELECTROSPINNING OF SPRING-LIKE FIBRES FROM ELASTOMERIC COPOLYESTERS | 898 |
| <i>Agueda Sonseca, Aleksandra Kaczmarek, Marcin Michon, Peter Sobolewski, Mirosława El Fray</i> | |
| OBTAINING BIODEGRADABLE, ELASTIC ELECTROSPUN POLYURETHANE/GRAPHENE OXIDE GRAFTS FOR TISSUE SCAFFOLDS | 899 |
| <i>Aleksandra Ivanoska-Dacicj, Gordana Bogoeva-Gaceva, Andres Krumme, Elvira Tarasova, Tita Plamus, Chiara Calera</i> | |
| DRUG DELIVERY IN CARBOXYMETHYLCELLULOSE / GRAPHENE OXIDE / HYDROXYAPATITE COMPOSITES SYSTEMS | 900 |
| <i>Othman Khalifi Taghzouti, Khalil El Mabrouk</i> | |

| | |
|---|-----|
| DEVELOPMENT AND EVALUATION OF FABRIC MODIFIED WITH POLYPYRROLE/CUO NANOCOMPOSITE FOR ANTIMICROBIAL AND ANTISTATIC APPLICATIONS | 901 |
| <i>Hema Bhandari, Sundeep Kumar Dhawan</i> | |
| MECHANICAL STRESS RELAXATION OF MEDICAL TUBING FOR INFUSION THERAPY: PREDICTING PRODUCT PERFORMANCE BY MATERIAL MODELLING | 902 |
| <i>Thomas Kremser, Liesa Gläß, Stefan Roth, Dirk Wolfram Schubert</i> | |
| ANALYSIS OF THE SPINNING PROCESS AND BATCH-TO-BATCH CONSISTENCY OF ALIGNED PCL/COLLAGEN NANOFIBERS FOR SKELETAL MUSCLE | 903 |
| <i>Dirk Dippold, Dirk W. Schubert, Justus P. Beier, Aldo R. Boccaccini</i> | |

S14 – ADDITIVE MANUFACTURING

| | |
|--|-----|
| UNDERSTANDING THE TEMPERATURE FIELD IN FUSED FILAMENT FABRICATION FOR ENHANCED MECHANICAL PART PERFORMANCE | 904 |
| <i>Natalie Rudolph, Jianxing Chen, Travis Dick</i> | |
| PRODUCTION OF SPHERICAL MICRON-SIZED POLYMER PARTICLES FOR ADDITIVE MANUFACTURING BY LIQUID PHASE PROCESSES | 920 |
| <i>Maximilian A. Dechet, Stephanie Kloos, Wolfgang Peukert, Jochen Schmidt</i> | |
| FUSED DEPOSITION MODELING OF POLY(VINYL ALCOHOL) BASED FILAMENTS | 925 |
| <i>Gang Chen, Ning Chen, Qi Wang</i> | |
| PROCESSABILITY OF PERLITE-FILLED POLYPROPYLENE COMPOSITES IN EXTRUSION-BASED ADDITIVE MANUFACTURING | 926 |
| <i>Stephan Schuschnigg, Martin Spörk, Janak Sapkota, Georg Weingrill, Thomas Fischinger, Florian Arbeiter, Clemens Holzer</i> | |
| DEVELOPING A PATIENT INDIVIDUALIZED FLEXIBLE SILICONE IMPLANT USING SLS AND VACUUM DIE CASTING | 927 |
| <i>Martin Launhardt, Nina Ebel, Markus Kondruweit, Michael Weyand, Tillmann Volk, Dietmar Drummer</i> | |
| CONTROL OF FUSED DEPOSITION MODELING MELT EXTRUSION AND LAYDOWN | 932 |
| <i>Michael James Hebda, Philip Caton-Rose, Ben Whiteside, Philip Coates</i> | |
| TEMPERATURE INDUCED AGEING OF PA12 POWDER DURING SELECTIVE LASER SINTERING PROCESS | 933 |
| <i>Johannes Benz, Christian Bonten</i> | |
| A NEW APPROACH FOR GETTING MORE HOMOGENEOUS TEMPERATURE FIELDS IN SELECTIVE LASER SINTERING | 938 |
| <i>Sandra Greiner, Lydia Lanzl, Kathrin Wudy, Dietmar Drummer</i> | |
| POLYETHERETHERKETONE HYBRID NANOCOMPOSITE FILAMENTS FOR 3D PRINTING | 943 |
| <i>Jose Antonio Covas, Maria Conceição Paiva, Patricia Lima, Jordana Gonçalves, Ugo Lafont</i> | |
| FLOW BEHAVIOUR OF LASER SINTERING POWDERS AT ELEVATED TEMPERATURES | 944 |
| <i>Michael Van Den Eynde, Peter Van Puyvelde</i> | |
| EFFECTS AND OPTIMIZATION OF PROCESSING PARAMETERS IN FABRICATION OF POLYPHENYLSULFONE MICROSPHERES VIA SPRAY DRYING | 945 |
| <i>Nicolas Mys, An Verberckmoes, Ludwig Cardon</i> | |
| WELDING OF 3D PRINTED CARBON NANOTUBE-POLYMER COMPOSITES BY LOCALLY INDUCED MICROWAVE HEATING | 946 |
| <i>Charles Sweeney, Mohammad Saed, Micah Green</i> | |
| STRUCTURE-PROPERTY RELATIONSHIP OF ADDITIVE MANUFACTURED THERMOPLASTIC POLYMERS PROCESSED WITH ARBURG FREEFORMER | 947 |
| <i>Franziska Kaut, Valentin Cepus, Wolfgang Grellmann</i> | |
| FATIGUE CRACK GROWTH PROPAGATION IN 3D-PRINTED POLYMER STRUCTURES – A COMPARISON OF DIFFERENT ADDITIVE MANUFACTURING TECHNOLOGIES | 948 |
| <i>Johannes Friedrich Knöchel, Micheal Kropka, Thomas Neumeyer, Volker Altstadt</i> | |
| A NOVEL PROCESS FOR TAILORED STIFFNESS AND STRENGTH IN EXTRUSION BASED ADDITIVE MANUFACTURING | 949 |
| <i>Willem Van De Steene</i> | |
| DETERMINATION OF THE SHORT TIME STABILITY OF POLYMERS | 950 |
| <i>Juergen E. K. Schawe</i> | |
| COMPARISON OF THE MECHANICAL PROPERTIES OF 3D PRINTED POLYMERS AND TIAL6V4 USED IN MEDICAL APPLICATIONS | 951 |
| <i>Volker Weißmann</i> | |
| DEVELOPMENT OF NOVEL NANOCARBON COMPOSITES BASED ON FUNCTIONALISED MWCNTS AND POLY LACTIC ACID FOR FUSED DEPOSITION MODELING APPLICATIONS | 952 |
| <i>Manuela Cano, Julián Parra, Maria Dolores Ramirez, Gabriel Morales, Sharali Malik</i> | |
| Author Index | |