



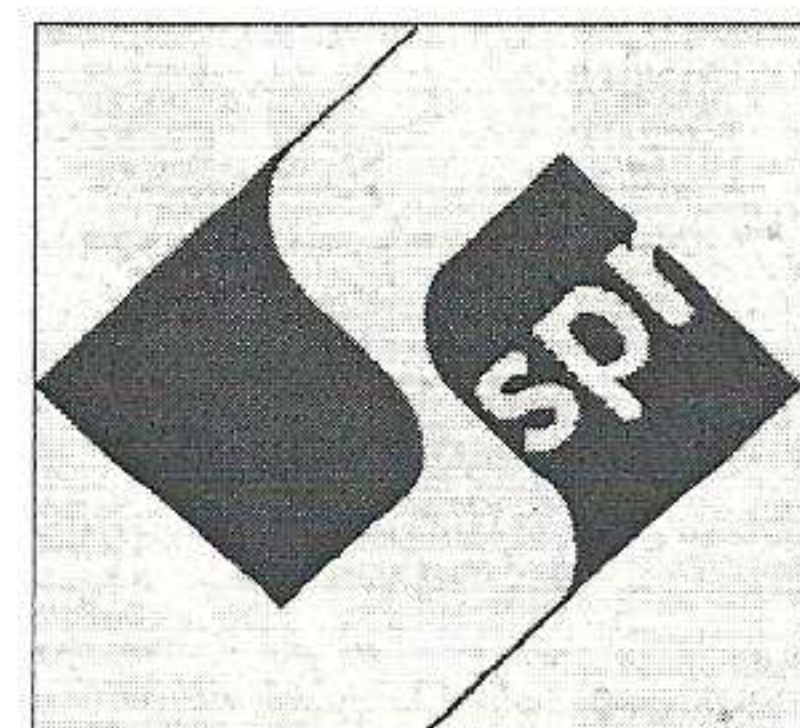
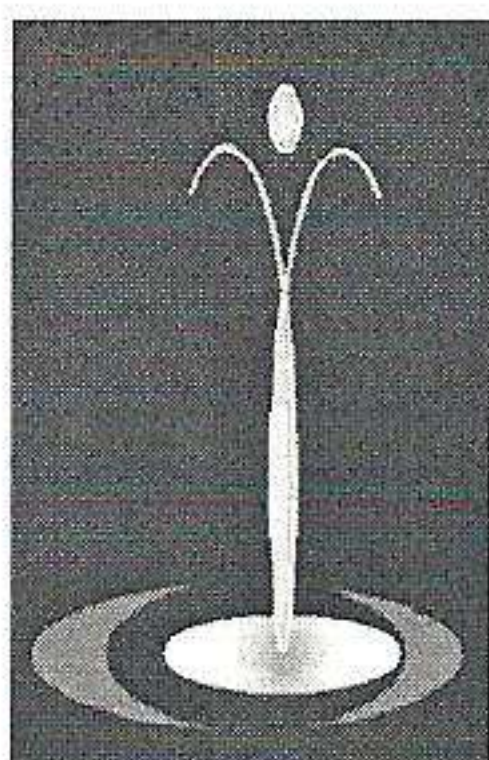
**IBEREC**  
**málaga 2013**

**IBERIAN MEETING ON RHEOLOGY**

*"Fundamental and Applied Rheology"*

*September 4-6, 2013*

***Book of Abstracts***



*Organized by Grupo Español de Reología and  
Sociedade Portuguesa de Reología*

Influence of the presence of bicarbonate on the physical and thermal mechanical properties of soy-based plastics processed through injection moulding	51
Relationship between protein-stabilised emulsions properties and controlled emulsification process by a mixer-type rheometer	52
Mixing rheometry of bitumens modified by plastic waste from agriculture	53
Rheological characterization of lubricating greases based on vegetable oil-derived basestocks containing biodegradable and traditional thickeners agents	54
Influence of homogenization rate of O/W emulsions containing a mixture of green solvents and a polyoxyethylene glycerol ester.	55
Thermorheological behaviour of Functional Ionic Liquids	56
Correlations between Mechanical Non Linearity in LAOS and Extrusion Instabilities in Industrial Polyethylenes	57
Rheological Characterization of alpha-pinene multiple emulsions formulated with two amphiphilic copolymers with different HLB and gellan gum	58
Hydrogels of Pluronic F127 in the presence of natural or synthetic polymers	59
Effects of Nanoclay/MDI Polymer-based Modification on Bitumen Properties	60
Rheology, microstructure and stability of limonene in water emulsions stabilized by P9400 and rosin gum. influence of surfactant concentration.	61
Preparation, Rheology and Physical Stability of O/W emulsions formulated with a mixture of green solvents	62
Modification of PVC plasticizers using ionic liquids	63
<b><i>PART IV: Multiphasic Systems and Composites</i></b>	<b>65</b>
Rheological behaviour of gel-like dispersions based on organoclay/recycled polypropylene blends and mineral oil for lubricant applications	66
The rheological behavior of concrete equivalent mortars when electric arc furnace slag is used as coarse aggregated	67
Taking advance of dynamic viscoelastic measurements to investigate polyurethane/graphene nanocomposites	68
In-line optical characterization during extrusion of polymer blends	69
Influence of calcium sulfate source on the rheological behaviour of calcium sulfoaluminate cements	70
<b><i>PART V: Non-Newtonian Fluid Mechanics</i></b>	<b>71</b>
Practical evidence of the complex steady-state flow behaviour of lubricating greases	72
Torque measurements in Newtonian and non-Newtonian fluids in Taylor-Couette flow	73
Newtonian and non-Newtonian fluid flow in a slowly diverging pipe	74
Visualization of the cell-free layer (CFL) in a PDMS microchannel with a micro-stenosis	75
Flow of Red Blood Cells in Microchannel Networks: in vitro studies	76
Mixing at low Reynolds numbers elastic turbulence in straight microchannels.	77
Elasto-inertial turbulence and the maximum drag reduction asymptote	78

## **Influence of calcium sulfate source on the rheological behaviour of calcium sulfoaluminate cements**

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Calcium sulfoaluminate (CSA) cements are receiving increasing attention since their manufacture produces much less CO<sub>2</sub> than ordinary Portland cement (OPC) [1]. In addition, they show interesting properties such as high early-age strengths, short setting times and impermeability. The main uses of these CSA cements are for quick repairs and pre-cast products or floor concrete applications. They are prepared by mixing the clinker with different amounts of a calcium sulfate set regulator such as gypsum, bassanite or natural anhydrite, or mixtures of them. This work studies the effect of the amount and type of calcium sulfate (gypsum, anhydrite and bassanite) added to a commercial CSA clinker on the rheological behaviour of fresh cement pastes, setting time, phase assemblage, and hence, compressive strength of the corresponding mortars. This study demonstrated that the rheological behaviour is not affected by the addition of different gypsum contents, but the addition of bassanite increases the viscosity of fresh pastes, and considerably reduces the setting time. All the chemistry evolved in these pastes affect the compressive strengths of the corresponding mortars. Finally, mortars prepared from CSA cements with 25 wt% of anhydrite showed a compressive strength of 64.1 ± 0.6 MPa just after 3 hydration days.

•Reference:

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- Gallegos, C., 36  
 García-Morales M., 14  
 García-Morales, M., 53  
 GonçalvesL.M.D., 35  
 GouveiaL., 35  
 Guerrero, A., 51  
 H. Ribeiro, 31  
 H.C. de Sousa, 63  
 H.M. Ribeiro, 11, 32  
 H.M.Mohamed, 102  
 Hyoung Jin Choi, 103, 107  
 I. Lobo, 63  
 I. M. El-Gamal, 102  
 I. Martínez, 6  
 I. Masalova, 104  
 I. Sousa, 25, 26  
 Iakovos Vittorias, 57  
 Innocent Mutabazi, 73  
 Isabel Coelho, 19  
 Isabel Hernando, 33  
 Isabel Santacruz, 70  
 Isabel Sousa, 10, 19  
 J. A. Picó, 37  
 J. A. Ruiz-López, 105  
 J. Berasategui, 92, 106  
 J. C. Fernández-Toledano, 105  
 J. de Vicente, 105  
 J. F. Arteaga, 3, 5  
 J. M. Nóbrega, 82, 83  
 J. Marto, 11, 31, 32  
 J. Muñoz, 55, 61, 62, 97, 108  
 J. Ortega-Casanova, 81  
 J. P. Segovia-Gutiérrez, 105  
 J. Peris, 37  
 J. Santos, 17, 55  
 J.A. Carmona, 58, 108  
 J.A.Covas, 69  
 J.D.G. Durán, 92  
 J.E. Martín-Alfonso, 4, 53, 66  
 J.L. Legido, 110  
 J.M. Franco, 3, 5, 13, 44, 54, 66, 72, 97  
 J.M.Maia, 69  
 J.Muñoz, 17, 58  
 Javier Carballo, 22  
 João Caetano, 48  
 João Canejo, 87  
 João Miranda, 94  
 João Paulo Borges, 86  
 Joerg Laeuger, 100  
 John Duffy, 91  
 Johnson C.P. Santos, 86  
 Jorge Canales, 68  
 Jorge Peixinho, 73, 74  
 José António Covas, 57  
 José Manuel Aguilar, 30  
 Jose Manuel Gallardo-Ruiz, 77  
 Jose Ramón Leiza, 38  
 Julia de la Fuente, 30  
 Julia Rodríguez-García, 33  
 K. Ezcurra, 92  
 K. Sharivar, 105  
 L. A. Trujillo, 62  
 L. Gouveia, 11, 31  
 L. L. Ferrás, 82  
 L. López-Castejón, 6  
 L. Lugo, 110  
 L. M. Pérez, 62  
 L. Parras, 99  
 L.A. García-Zapateiro, 54  
 L.A. Trujillo, 55, 61  
 L.Hilliou, 69  
 L.Irazu, 92, 106  
 L.M Pérez-Mosqueda, 61  
 Laura Campo-Deaño, 80  
 Leire Sangroniz, 68  
 Lídia Pinheiro, 48  
 Lionel Choplin, 52  
 Loic Hilliou, 9, 10, 57, 87  
 Loredana Pop, 100  
 Luis C. Branco, 56  
 M. C. Alfaro, 62  
 M. Chaouche, 90  
 M. Cruz-Carrasco, 96  
 M. F. Tomé, 83  
 M. Felix, 8  
 M. Félix, 4, 7  
 M. G. Rasteiro, 63  
 M. García-Morales, 6, 50, 53, 60  
 M. J. Hernández, 37  
 M. Jozami, 44  
 M. Militão, 31  
 M. Moldão-Martins, 47  
 M. Moral, 92  
 M. T. López-López, 92  
 M.A. Alves, 79, 82  
 M.A. Delgado, 54, 72  
 M.C. Alfaro, 17, 58, 61, 97  
 M.C. García, 17, 55, 97, 108  
 M.C. NunesA. Raymundo, 56  
 M.C. Sánchez, 66  
 M.C.García, 58  
 M.D. Rubio-Cintas, 67, 96  
 M.D. Torres, 25, 26, 45, 46  
 M.Eugenia Muñoz, 38, 68  
 M.J. Elejabarrieta, 92, 106  
 M.J. Gutiérrez-Solís, 7  
 M.J. Pastoriza-Gallego, 110  
 M.M. Bou-Ali, 92, 106