К О Л О К В И У М

Н А С Е К Ц И Я “ П О В Ъ Р Х Н О С Т И И К О Л О И Д И ”

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С Ъ О Б Щ Е Н И Е

На **30 март 2018 г. (петък) от 11:00 часа в зала “Болцман” на ИФХ-БАН,** ще се проведе заседание на Колоквиума със следния дневен ред:

1. Доклад на Николай Панчев на тема:

“ ELECTRO-MICROINTERFEROMETRIC STUDIES OF WATER/OIL/WATER EMULSION FILMS”

The talk will cover the latest compilation of the obtained results, with the following content.

Development of a New Electro-Chemical Method. The industry-related problem and the experimental set-up. Advantages of the method.

Concentration effects on critical voltage (studied systems: bitumen-diluted-in toluene and heptane, asphaltenes-diluted-in toluene, lecithin and Abil diluted in decane and toluene).

Effect of the type of bitumen on film stability.

Effect of film area on critical voltage (studied systems: heavy and light bitumen-diluted-in-toluene, asphaltenes-diluted-in-toluene). Comparison between Thin Film Apparatus and Microfluid Chip.

Experimental evidences for the mechanisms of film break-up. Rupture of thick films occurs via formation of black spots. Rupture of thin black films occurs via formation of white spots. Two different mechanisms of film rupture depending on the type of the organic solvent

Electric field-induced film dynamics. DC Voltage-thickness Isotherms. Reproducibility of voltage-thickness isotherms (at different film areas). Electric field strength – thickness isotherms and Electrical pressure – thickness isotherms. DC Voltage-thickness isotherms at different rates of voltage ramps. Effect of film area on voltage-thickness isotherms. Effect of capillary (mechanical) pressure on voltage-thickness isotherms. Effect of voltage application on surface forces. Introduction of critical pressure at given DC voltage as another electro-mechanical stability parameter.

Film thinning-thickening with application of DC cycles.

Calculation of the film capacitance. Application of AC electric field.

Effect of surfactant concentration and film thickness on critical voltage. Analysis of the results with multiple regression modeling.

Electrohydrodynamic Instabilities in Free Emulsion Films. Theoretical modeling and experimental evidences.

Molecular dynamics simulation of electro-induced rupture of toluene film.

2. Разни (съобщения, организационни и др. въпроси).