Dielectric spectroscopy of organic solvents of varying polarity (*MSc Thesis Seminar)*

Zena Mohammad Aljabal
Department of Physics and Physical Oceanography
Memorial University

DATE: Thursday, March 31, 2016
TIME: 2:30 PM
PLACE: C3024

ABSTRACT: The dielectric constant and the conductivity for several organic solvents of varying polarity and colloidal suspensions is measured using the dielectric spectroscopy as a function of frequency, over the frequency range 0.1 Hz to 100 kHz. These measurements are carried out for organic solvents of different polarities: cyclohexyl bromide (CHB), castor oil, cis+trans-decahydronaphtalene (decalin) and decane. In addition, dielectric spectroscopy is carried out for polymethylmethacrylate (PMMA) colloidal spheres in the intermediate polar mixture of cyclohexy bromide (, (CHB)) and 20% cis+trans-decalin by volume.

Electrode polarization effects were observed at low frequency in CHB and CHB-decalin mixtures. A fit function was modeled that provided an excellent fit to the dielectric spectra at low and high frequencies. These measurements provided direction for future measurement on colloidal suspensions in these solvents.

This is a MSc final presentation and graduate students from our department are especially encouraged to attend.

ALL ARE WELCOME!