CLEANING PROPRETIES OF IONIC LIQUIDS

Ivan Ivanov, Borislav Soklev, Stoian Karakashev

Faculty of Chemistry, University of Sofia, 1126 Sofia, Bulgaria.
e-*mail:* grillo@abv.bg

One of the interesting discoveries in the chemistry in the last decades are the ionic liquids (IL). They are salts, which are liquids at low temperatures (at room temperature and below), composed by ionic pairs – organic ions with positive and negative charges. These liquids reveal many useful properties. One of them is their cleaning capacity. Our preliminary observations have shown that in general, by rolling off on inclined solid surfaces, IL droplets collect inside all impurities along its road, leaving no microscopic visible traces behind itself. Taking into account that ILs are powerful solvents it can be supposed that the cleaning action will include removing of greasy spots. The poster includes experimental results of wetting dynamics of well defined (on the degree of hydrophobicity and profile) solid surfaces: rate of three phase contact line as a function of dynamic contact angles. There is a comparison with similar data of water (pure and surfactant solutions) droplets at the same conditions. Important cleaning characteristics is the stability of the flowing down (on the solid surface) liquid film. The poster shows data on kinetics of such thinning films (at the moment for soap IL films), as well as data of the so-called critical thickness of rupture of IL films.