

Generation of highly stable foams made from physical gels

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In this talk I will present results concerning foams in which the continuous phase is a non covalent gel (PVA/Borax system). I will show that these foams are ultra stable, over weeks due to a very slow gravitational drainage flow of the continuous phase. I will show that both a high bulk and interfacial viscosity lead to this slow drainage as PVA chains are cross-linked by borax both at interfaces and in the bulk. Then I will present results showing that these foams can be used to absorb liquids which can be used for decontamination processes. Finally I will present results concerning the foaming process of these foams and show that the PVA/Borax concentrations tune the viscoelastic properties of the foams which in turn control the structure of the foams.