

Equilibrium surface freezing at the solid, vapor and water interfaces

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Invité par Philippe FONTAINE

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Surface freezing, the formation of a one or two molecular layers thick crystalline film on the surface of a melt, occurs in long-chain hydrocarbons such as n-alkanes and alcohols over a range of temperature where the bulk remains molten. Several theoretical models have been proposed to explain this behaviour ; one of the leading contenders is that the methyl end-group of these chain molecules acts as a surfactant. In this case, the surface energy is minimized when the number of these groups is maximized at the interface. This high packing density promotes an all-trans configuration of the chains and a surface normal molecular orientation, leading to a crystalline (frozen) ordering of the surface layer. At the vapor interface of a liquid this reversible SF phenomena represents a very simple and elegant example of self-assembly. More recently related phenomenon has also been observed a solid interfaces and at surfactant covered surfaces of water. I will provide an overview of surface freezing in a variety of systems in this talk.

Formalités d'entrée : accès libre dans l'amphi du Pavillon d'Accueil. Si la manifestation a lieu dans le Grand Amphi Soleil du Bâtiment Central, merci de vous munir d'une pièce d'identité (à échanger à l'accueil contre un badge d'accès).

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