



Thursday, March 21, 2013

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Wetting, Filling and Spilling: Interfacial Phase Transitions from the Microscopic to Macroscopic scale

Abstract: In this talk I will review some recent developments involving fluids at interfaces. Such phenomena are ubiquitous in Nature - we are surrounded by examples of menisci, droplets on surfaces, liquids in tubes etc. Fluid interfaces exhibit some very interesting phase transitions in which the interfacial properties suddenly change. These are fascinating from the point of view of Statistical Mechanics and reveal the tremendously subtle interplay between surface tension, stochastic fluctuation effects, intermolecular forces and the confining geometry. We shall focus on three examples of such transitions, some of which have proved to be highly controversial and difficult to understand. From them we will be able to see some unexpectedly deep connections between apparently different phenomena which stretch from the microscopic to macroscopic scale.



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Default Data

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