



NITheP cordially invites you to a seminar by:

Prof Joseph Indekeu

Leuven University, Belgium

Date: Wednesday 27 January 2016
Time: 14:00
Venue: NITheP Seminar room

TITLE: Wetting in two dimensions: what remains to be seen?

ABSTRACT: The global phase diagram of wetting in the two-dimensional Ising model is obtained through exact calculation of the surface excess free energy. Besides a surface field for inducing wetting, a surface-coupling enhancement is included. The wetting transition is critical (of second order) for any finite ratio of surface coupling J_s to bulk coupling J , and turns first order in the limit that J_s/J approaches infinity. However, for J_s/J greater than of order unity, the critical region is exponentially small and practically invisible to numerical studies. A distinct preasymptotic regime exists in which the transition displays first-order character. Surprisingly, in this regime the surface susceptibility and surface specific heat develop a divergence and show anomalous scaling with an exponent equal to $3/2$.

Co-authors: Xin-Tian Wu and Douglas Abraham

Preprint: <http://arxiv.org/abs/1410.8574> to appear in PRL

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