Oberseminar Mathematische Stochastik

Mittwoch, 16. Mai 2018, **16:15 Uhr, SRZ 205**

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Critical wetting models in $1 + 1$ dimensions

Abstract:

Wetting models are a class of polymer models enjoying an interplay between two forces - local (pinning) and global (presence of a hard wall). In $1 + 1$ dimensions, the standard case is completely solved by Deuschel, Giacomin and Zambotti in 2004 and a sharp phase transition holds. In particular, the asymptotic behavior of the system is drastically different in the sub-critical, the super critical and the critical phases, where in the latter case the limiting path is the reflected Brownian motion. However, in the standard model the pinning potential has strong singularity at zero. Taking the pinning to be constant on a strip of fixed size, phase transition and off-critical scaling limits are were proven by Sohier in 2013. In the talk we shall discuss our recent result on a full path scaling limit of the strip model so that the strip size is shrinking to zero, where any smooth pinning function is allowed as long as it is well-approximating the critical value of the standard model. This is a joint work with Jean-Dominique Deuschel.