Nonperturbative renormalization group approach to nonequilibrium systems.

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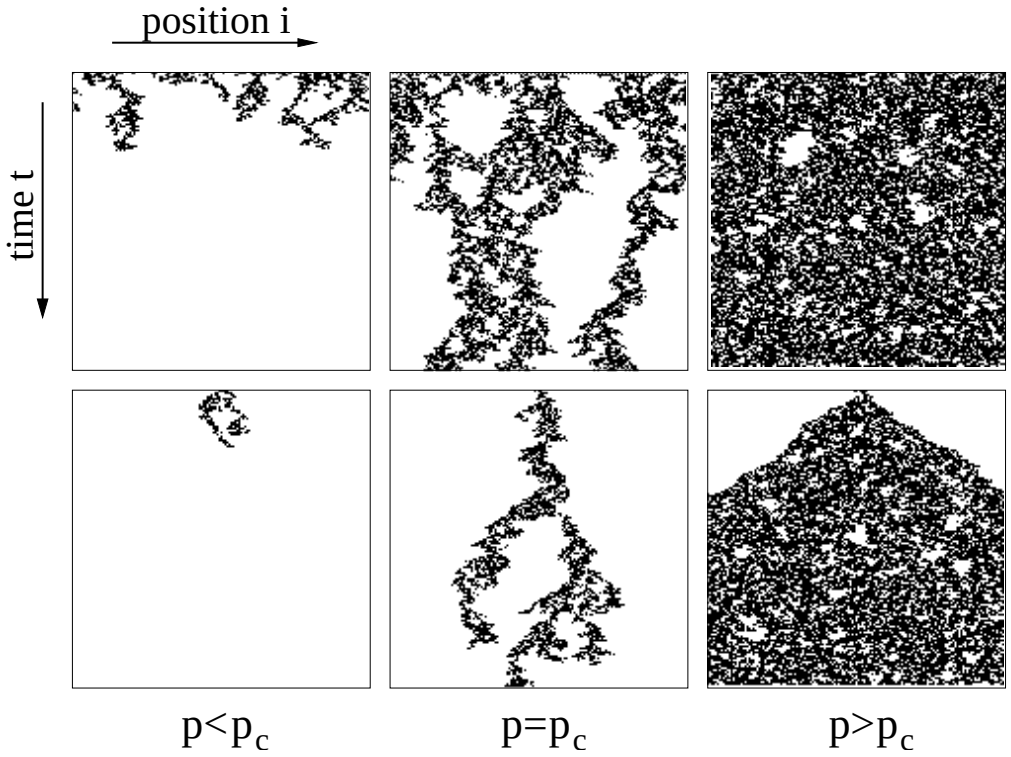
Boulder, USA, July 2009



[H. Hinrichsen, Adv. Phys. **49** (2000) 815.]

Rates D, μ, σ, λ fixed from p, probability of connexion of lattice sites.

First line $\longrightarrow$ $d = 1$ lattice uniformly occupied initially. 3 values of p: one below, one above and one just at the critical value.

Second line $\longrightarrow$ the same but lattice only occupied in a single site initially.

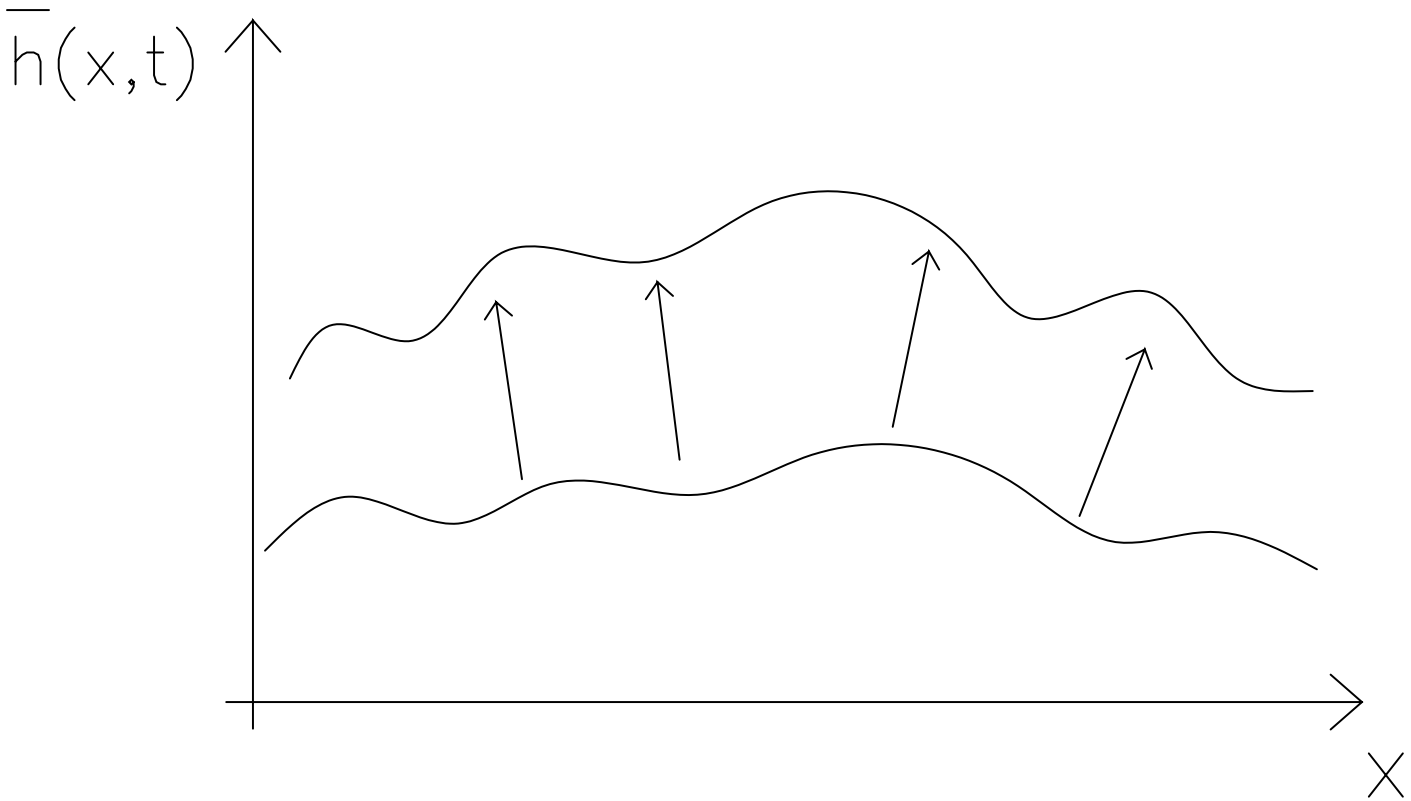


Figure: Evolution of the height $\bar{h}(t, \vec{x})$ of an interface

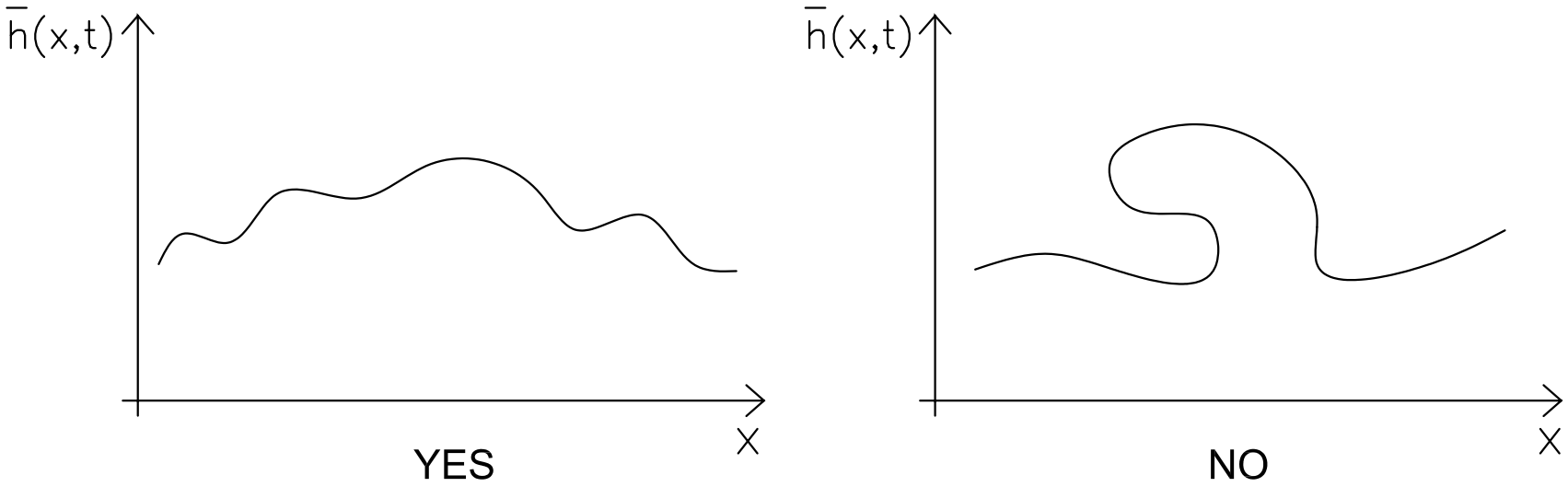


Figure: Type of interface included and not included in the analysis

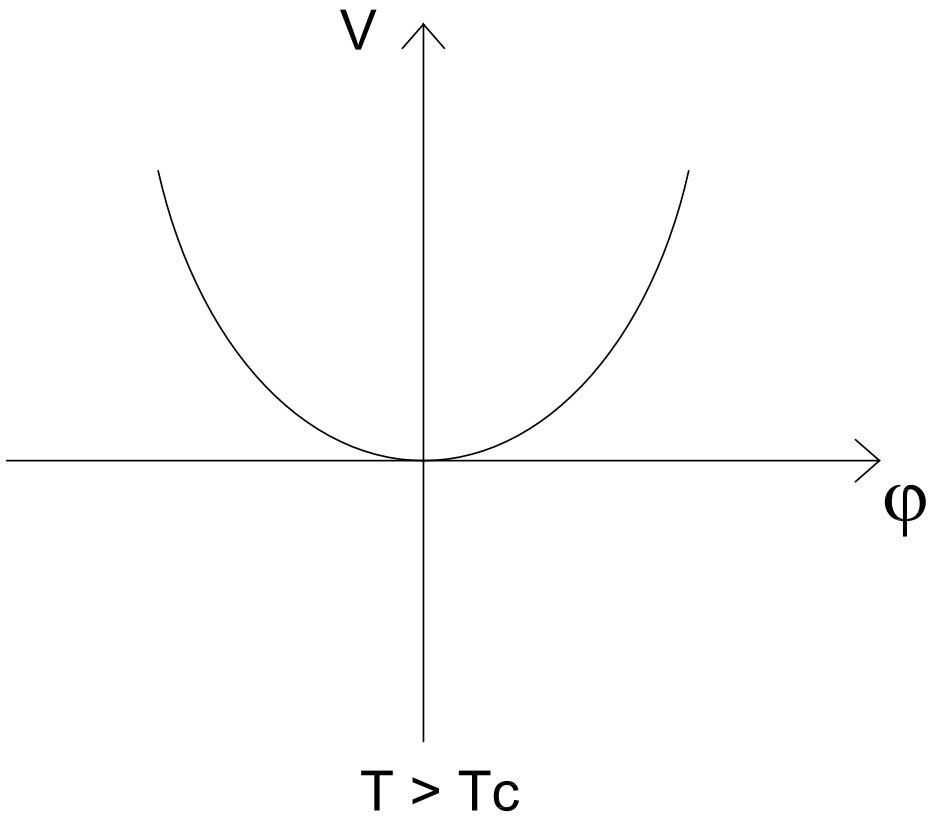


Figure: Potential for $r_0 > 0$ (mean-field).

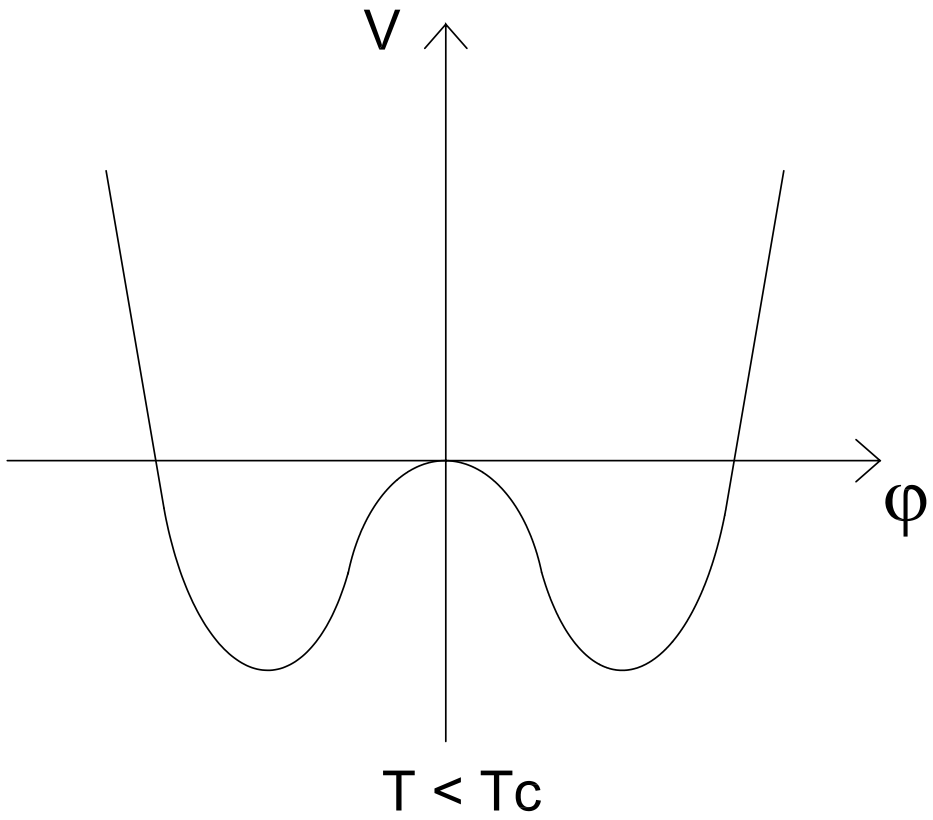


Figure: Potential for $r_0 < 0$ (mean-field).

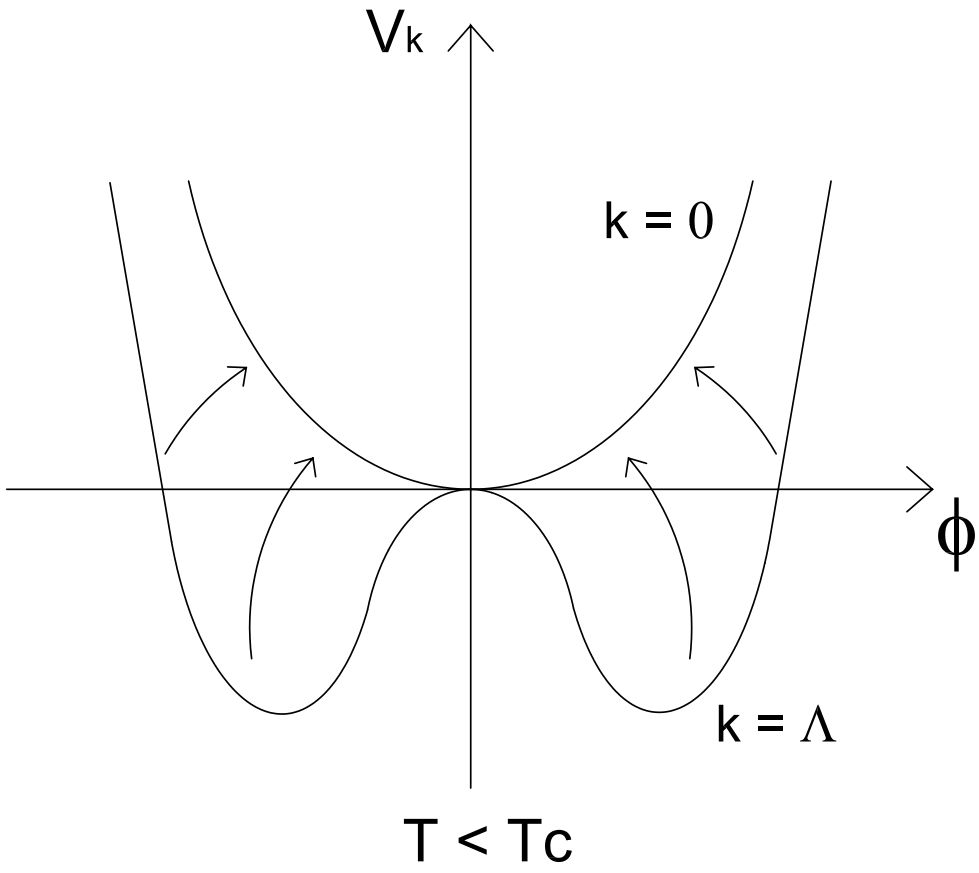


Figure: Flow with k of the effective potential V_k for $T > T_c$.

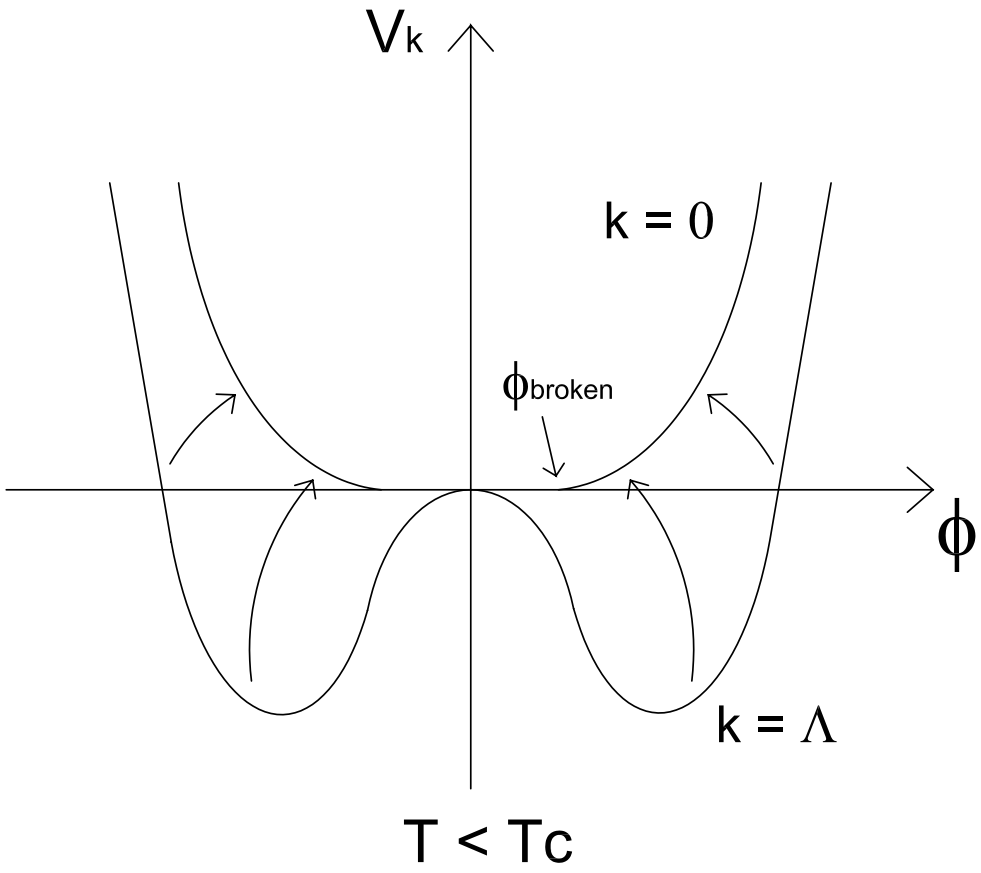


Figure: Flow with k of the effective potential V_k for $T < T_c$.

N	ν		η	
0	0.70	0.75	0.222	0.2083...
1	0.92	1	0.295	0.25
2	–	–	0.287	0.25

$\mathcal{O}(\partial^2)$ results for some critical exponents for the $O(N)$ model for $d = 2$ compared with the exact result.

[G. Von Gersdorff and C. Wetterich, Phys. Rev. B **64** (2001) 054513]

Table: $\mathcal{O}(\partial^2)$ results for some critical exponents for the $O(N)$ model for $d = 3$ compared with best estimates in the literature (see references in notes).

N	ν		η	
0	0.590	0.5882(11)	0.039	0.0284(25)
1	0.6307	0.6302(1)	0.0467	0.0368(2)
2	0.666	0.6717(1)	0.049	0.0381(2)
4	0.739	0.741(6)	0.047	0.035(4)
10	0.881	0.859	0.028	0.024

[G. Von Gersdorff and C. Wetterich, Phys. Rev. B **64** (2001) 054513]

Table: Results from Derivative Expansion a different orders for $N = 1$ and $d = 3$, compared to best estimates in the literature and best perturbative estimates.

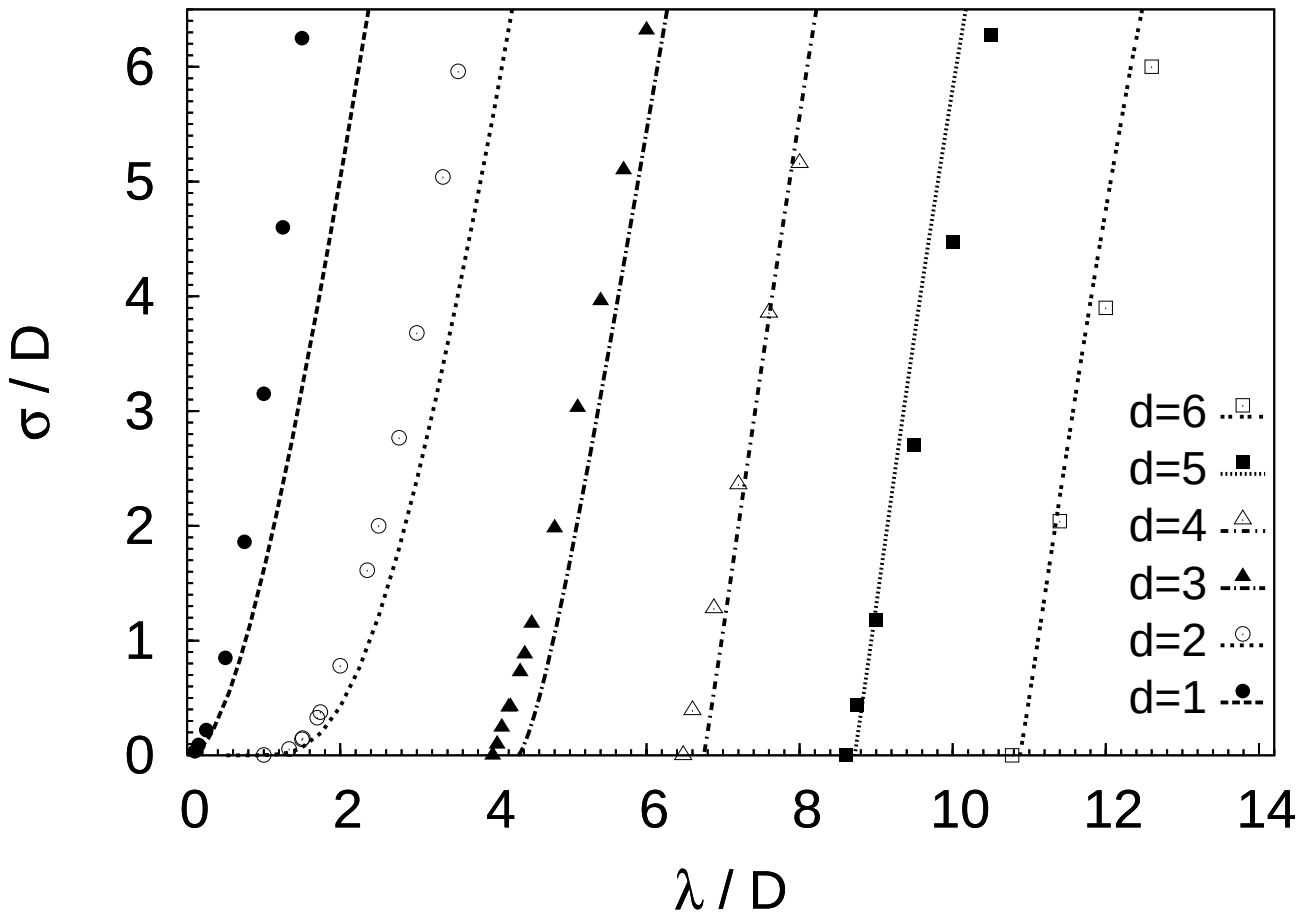
order	ν	η
∂^0 =LPA	0.651	0
∂^2	0.628	0.044
∂^4	0.632	0.033
7-loops	0.6304(13)	0.0335(25)
best estimate	0.6302(1)	0.0368(2)

[L. Canet et al, Phys. Rev. D **67** (2003) 065004]
[L. Canet et al, Phys. Rev. B **68** (2003) 064421]
[Y. Deng and H. W. J. Blöte, Phys. Rev. E **68** (2003) 036125]
[R. Guida and J. Zinn-Justin, J. Phys. A **31** (1998) 8103.]

Table: LPA results for some critical exponents for the DP universality class compared to perturbative estimates and Monte-Carlo results.

	LPA			Perturbative results			Monte-Carlo		
d	ν	β	z	ν	β	z	ν	β	z
1	1.056	0.528	2	0.877	0.398	1.49	1.096...	0.276...	1.580...
2	0.730	0.730	2	0.709	0.622	1.72	0.734(4)	0.584(4)	1.76(3)
3	0.584	0.872	2	0.584	0.822	1.89	0.581(5)	0.81(1)	1.90(1)

[L. Canet et al, Phys. Rev. Lett. **92** (2004) 195703.]
[J. Bronzan and J. Dash, Phys. Lett. B **51** (1974) 496.]
[I. Jensen, Phys. Rev. A **45** (1992) 563.]
[C. A. Voigt and R. M. Ziff, Phys. Rev. E **56** (1997) 6241.]
[I. Jensen, J. Phys. A **32** (1999) 5233.]



[L. Canet, H. Chaté, B. Delamotte, Phys. Rev. Lett. 92 (2004) 255703]

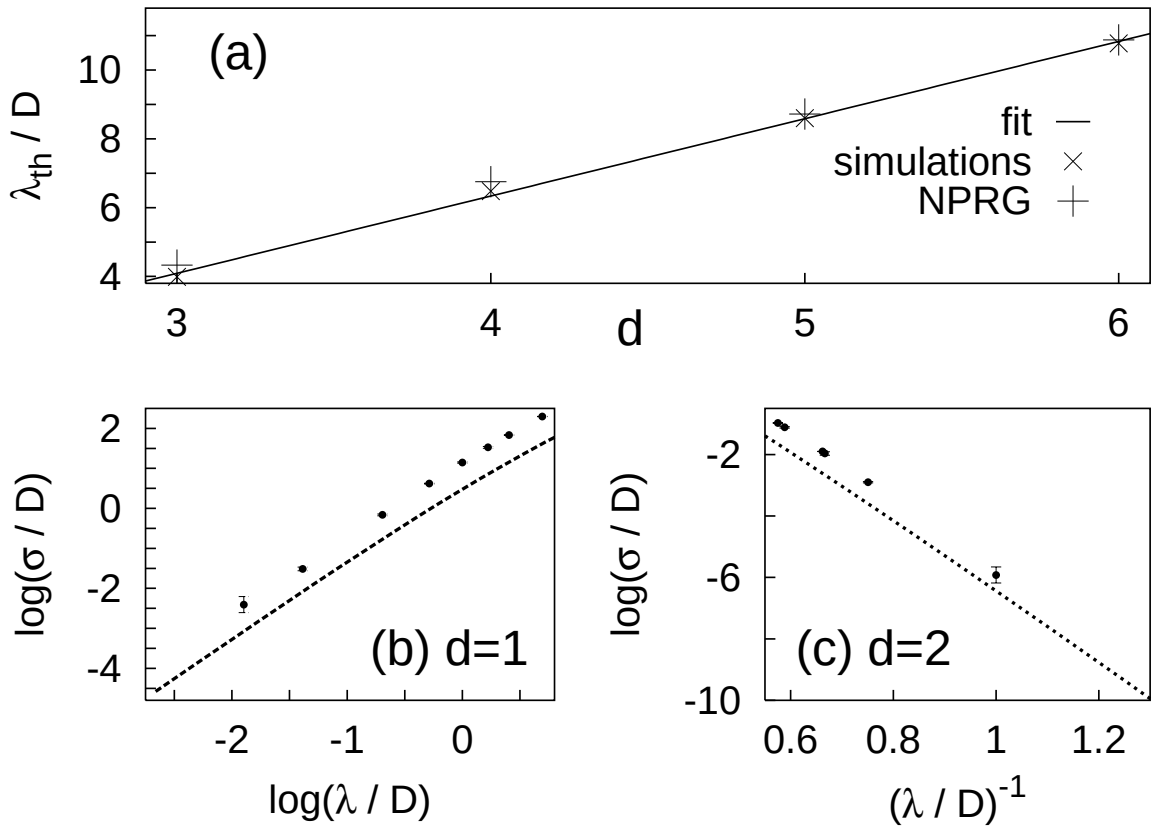


Figure: (a) Evolution of the thresholds λ_{th}/D with the dimension; (b) and (c) log plots of the transition curve in the vicinity of the origin in $d = 1$ and $d = 2$ respectively.

[L. Canet, H. Chaté, B. Delamotte, Phys. Rev. Lett. 92 (2004) 255703]