






Basic bibliography on cluster expansions






General

-  D. Ruelle (1969): *Statistical mechanics: Rigorous results*. W. A. Benjamin, Inc., New York-Amsterdam
-  C. Gruber and H. Kunz (1971): General properties of polymer systems. *Comm. Math. Phys.* **22**, 133–61
-  R. L. Dobrushin (1996): Perturbation methods of the theory of Gibbsian fields. In *Ecole d'Eté de Probabilités de Saint-Flour XXIV – 1994*, Springer-Verlag (Lecture Notes in Mathematics **1648**), Berlin–Heidelberg–New York, 1–66



Classical approach

-  D. C. Brydges (1984): A short cluster in cluster expansions. In *Critical Phenomena, Random Systems, Gauge Theories*, Osterwalder, K. and Stora, R. (eds.), Elsevier, 129–83
-  Ch.-E. Pfister (1991): Large deviation and phase separation in the two-dimensional Ising model. *Helv. Phys. Acta* **64**, 953-1054 .





Inductive approach

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-  S. Miracle-Solé (2000): On the convergence of cluster expansions. *Physica A* **279**, 244–9
-  A. Scott and A. D. Sokal (2005): The repulsive lattice gas, the independent-set polynomial, and the Lovász local lemma. *J. Stat. Phys.* **118**, 1151–261
-  D. Ueltschi (2004): Cluster expansions and correlation functions. *Mosc. Math. J.* **4** 511–22



Revisited classical approach

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Chromatic polynomials

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-  C. Borgs (2006): Absence of Zeros for the Chromatic Polynomial on Bounded Degree Graphs. *Combinatorics, Probability and Computing* **15**, 63-74
-  R. Fernández and A. Procacci: Regions without complex zeros for chromatic polynomials on graphs with bounded degree. *Combinatorics Probability and Computing* **17**, 225-38, 2008
-  B. Jackson, A. Procacci and A. D. Sokal, arXiv:0810.4703v1

Hard spheres

-  D. Ruelle (1969): *Statistical mechanics: Rigorous results*. W. A. Benjamin, Inc., New York-Amsterdam
-  R. Fernández, A. Procacci and B. Scoppola (2007): The analyticity region of the hard sphere gas. Improved bounds. *J. Stat. Phys.* **128**, 1139–43

HTE, LTE, Duality

-  C. Gruber, A. Hintermann and H. Merlini (1977): *Group analysis of classical lattice systems*. Lecture Notes in Physics 60, Springer-Verlag, Berlin