Periodic and Weakly Periodic Ground States for the \( \lambda \)-Model on Cayley Tree

(Conference Paper)

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Abstract

In this paper we consider the \( \lambda \)-model on the Cayley tree of order two. We describe the periodic and weakly periodic ground states for the considered model. © Published under licence by IOP Publishing Ltd.

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References (19)

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1. Sinai, Y.G. (1982) "Theory of Phase Transitions: Rigorous Results." Cited 414 times. (Oxford: Pergamon Press)
2 Minlos, R.A. (2000) *Introduction to Mathematical Statistical Physics*. Cited 30 times.
(Providence, RI: Amer. Math. Soc.)

3 Ganikhodjaev, N.N., Mukhamedov, F.M., Mendes, J.F.F. (2006) *Jour. Stat. Mech.*

4 Botirov, G.I., Rozikov, U.A.

*Potts model with competing interactions on the Cayley tree: The contour method*

(2007) *Theoretical and Mathematical Physics*, 153 (1), pp. 1423-1433. Cited 6 times.
doi: 10.1007/s11232-007-0125-x

View at Publisher

5 Mukhamedov, F., Rozikov, U., Mendes, J.F.F.

*On contour arguments for the three state Potts model with competing interactions on a semi-infinite Cayley tree*

(2007) *Journal of Mathematical Physics*, 48 (1), art. no. 013301. Cited 5 times.
doi: 10.1063/1.2408398

View at Publisher

6 Rozikov, U.A.

*Gibbs measures on cayley trees*

(2013) *Gibbs Measures on Cayley Trees*, pp. 1-385. Cited 57 times.
http://www.worldscientific.com/worldscibooks/10.1142/8841#t=toc
ISBN: 978-981451338-8; 978-981451337-1
doi: 10.1142/8841

View at Publisher

7 Rozikov, U.A., Rakhmatullaev, M.M.

*Weakly periodic ground states and Gibbs measures for the Ising model with competing interactions on the Cayley tree*

(2009) *Theoretical and Mathematical Physics*, 160 (3), pp. 1292-1300. Cited 19 times.
doi: 10.1007/s11232-009-0116-1

View at Publisher

8 Rakhmatullaev, M.M.

*Description of weak periodic ground states of ising model with competing interactions on cayley tree*

(2010) *Applied Mathematics and Information Sciences*, 4 (2), pp. 237-251. Cited 3 times.
http://www.naturalspublishing.com/files/published/64666uik445jml.pdf

9 Rakhmatullaev, M.M.

*Weakly periodic Gibbs measures and ground states for the Potts model with competing interactions on the Cayley tree*

(2013) *Theoretical and Mathematical Physics*, 176 (3), pp. 1236-1251. Cited 7 times.
doi: 10.1007/s11232-013-0103-4

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