Effect of Bond-Diluted on Spin-3/2 Transverse Ising Model with Crystal Field

JIANG Wei,[1,2] LU Zhan-Hong,[1] WEI Guo-Zhu,[2] and DU An[2]

[1] College of Sciences, Shenyang University of Technology, Shenyang 110023, China
[2] College of Sciences, Northeastern University, Shenyang 110006, China

Abstract: The magnetic properties of the bond-diluted spin-3/2 transverse Ising model with the presence of a crystal field on the honeycomb lattice are studied within the framework of the effective field theory with correlations. The interactions J_{ij} are assumed to be independent random variables with distribution $P(J_{ij})=p\delta(J_{ij}-J)+(1-p)\delta(J_{ij})$.

[Full text: PDF]

Close