

Abstract Submitted
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Kinetic properties of small one-dimensional Ising magnetic
VLADIMIR UDODOV, DMITRIY SPIRIN, Katanov Khakas State University,
KATANOV KHAKAS STATE UNIVERSITY TEAM — Within the framework of
a generalized Ising model, a one-dimensional magnetic of a finite length with free
ends is considered. The correlation length critical exponent ν and kinetic critical
exponent z of the magnet is calculated taking into account the next nearest neighbor
interactions and the external field. Of special interest are non-equilibrium processes
taking place within the critical temperature interval, which are characterized critical
exponent y and dynamic critical index z . Due to significant difficulties encountered
in the experimental investigations (e.g., measurement of z), a natural solution to
this complex problem would be modeling of those non-equilibrium processes. This
work addresses non-equilibrium processes in one-dimensional magnetics. Using the
Monte Carlo method, an equilibrium critical exponent of the correlation length ν
and the dynamic critical index z are calculated for a finite-size magnetic.

Vladimir Udodov
Katanov Khakas State University, Russia

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