

Georgii, Hans-Otto

Gibbs measures and phase transitions. 2nd extended ed. (English) Zbl 1225.60001

De Gruyter Studies in Mathematics 9. Berlin: de Gruyter (ISBN 978-3-11-025029-9/hbk; 978-3-11-025032-9/ebook). xix, 545 p. (2011).

This is the second edition of the fundamental monograph by *H.-O. Georgii* [Gibbs measures and phase transitions. Berlin etc.: Walter de Gruyter (1988; [Zbl 0657.60122](#))]. Apart from corrections and some small adjustments most parts of the book remain unchanged except for two new sections: the first one on large deviations for Gibbs measures and the free minimum free energy principle; whereas the second one gives a brief overview of developments in the field since the first edition was published.

In its new edition, the text remains a standard reference for the expert as well as a nicely written introduction to this fascinating subject.

Reviewer: [H. M. Mai \(Berlin\)](#)

MSC:

- [60-02](#) Research exposition (monographs, survey articles) pertaining to probability theory Cited in **118** Documents
- [82-02](#) Research exposition (monographs, survey articles) pertaining to statistical mechanics
- [82B26](#) Phase transitions (general) in equilibrium statistical mechanics
- [60K35](#) Interacting random processes; statistical mechanics type models; percolation theory

Keywords:

mathematical theory of phase transition; statistical mechanics; lattice models of classical equilibrium statistical mechanics; Gibbs measure; symmetry breaking; extreme point decompositions; Gaussian fields as Gibbs measures; entropy; breaking of rotational symmetries; pair potential; large deviations

Full Text: [DOI](#)