

An Introduction to Renormalization Group and Critical Phenomeon

Fang Xie, Department of Physics & IASTU, Tsinghua University

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1 Introduction

2 General Theory of Renormalization Group

2.1 Basic Steps

2.2 β -function

2.3 Fixed point and renormalization flow

3 A Simple Example: Ising Model and ϕ^4 Theory

4 Another Example: Kosterlitz-Thouless Transition and Topological Excitations