

ATELIER « FONCTIONS ALÉATOIRES, SURFACES ALÉATOIRES ET INTERFACES »
4–9 JANVIER 2009

WORKSHOP “RANDOM FUNCTIONS, RANDOM SURFACES AND INTERFACES”
JANUARY 04–09, 2009

The random fields in the early universe theory

LEV KOFMAN

Canadian Institute of Theoretical Astrophysics
University of Toronto
60 St. George Street, Room 1203
Toronto, ON M5S 3H8
CANADA

kofman@cita.utoronto.ca

According to the modern cosmological paradigm, very early universe underwent an exponentially rapid expansion, inflation. Inflationary theory provides us with the mechanisms to generate tiny cosmological fluctuations which seed formation of cosmic structures, and origin of matter in the process of preheating after inflation. I will discuss the random field theory aspects of primordial fluctuations and preheating.