

Random Matrices, Related Topics and Applications
August 25–30, 2008
Matrices aléatoires, sujets connexes et applications
25–30 août, 2008

New fermionic representation of certain matrix integrals

Aleksander Yu. Orlov
Nonlinear Wave Laboratory
Institute for Oceanology
Nahimovsky prospekt 36
Moscow 117997
RUSSIA

`orlovs@wave.sio.rssi.ru`

Abstract

In terms of free fermions we shall write down

1. A new representation for two-matrix models and explain its calculational use
2. A representation for the Mehta ensemble interpolating between beta=1 and beta=2 ensembles
3. A representation for matrix quantum mechanics

The last two cases are related to the BKP and KP hierarchies.

The talk is partially based on joint work with J.Harnad.