

ATELIER « SYSTÈMES STOCHASTIQUES DE PARTICULES EN INTERACTION »  
18–23 MAI 2009

WORKSHOP “INTERACTING STOCHASTIC PARTICLE SYSTEMS”  
MAY 18–23, 2009

## Random Processes and Integrable Systems

ALEKSANDER YU. ORLOV

Nonlinear Wave Laboratory  
Institute for Oceanology  
Nahimovsky prospekt 36  
Moscow 117997  
RUSSIA

`orlovs@wave.sio.rssi.ru`

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We shall consider various models of random turn motion suggested by M.E. Fisher and show that the analogue of the partition functions for these models coincides with tau functions of the Kadomtsev–Petviashvili equation related to the root system  $B$  (BKP). BKP higher times govern the hopping rates of the particles. We shall present asymptotic shape configuration for these models in the large time limit. We use the fermionic construction of tau functions, symmetric functions and Young diagrams.

*Based on joint works with J. Harnad.*