

**Meeting:** 1000, Albuquerque, New Mexico, SS 9A, Special Session on Mathematical Methods in Turbulence

1000-76-7            **Foukzon JSF Jaykov\*** ([advancedguidance@list.ru](mailto:advancedguidance@list.ru)), Israel, Tel-Aviv, st. Rambam 7a/2, 5678  
Tel-Aviv, Israel. *New Scenario for Transition to slow Turbulence. Turbulence like quantum chaos in three dimensional model of Euclidian quantum field theory.* Preliminary report.

New Scenario for Transition to slow Turbulence. Turbulence like quantum chaos in three dimensional model of Euclidian quantum field theory. Numerical-analytical study of the three- dimensional nonlinear stochastic partial differential equations, analogous to that proposed by V. N. Nikolaevskii [Recent Advances in Engineering Science (Springer - Verlag, Berlin. 1989)] to describe longitudinal seismic waves, is presented. The equation has a threshold of short-wave instability and symmetry, providing long-wave dynamics. The results of computation are in a sharp contradiction with Tribelsky M.I and K. Tsuboi's work (Phys. Rev. Lett. 76 1631 (1996)), in which the influence of the thermal fluctuations was not taken into account and a principally erroneous scheme of numerical modeling of chaos on the lattice was used. Proposed new mechanism for quantum chaos generating in nonlinear dynamical systems. The hypothesis is said, that physical turbulence could be identified with quantum chaos of considered type. (Received April 28, 2004)