

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
ФАКУЛЬТЕТ ІНОЗЕМНОЇ ФІЛОЛОГІЇ
ТА СОЦІАЛЬНИХ КОМУНІКАЦІЙ**



СОЦІАЛЬНО-ГУМАНІТАРНІ АСПЕКТИ РОЗВИТКУ СУЧАСНОГО СУСПІЛЬСТВА

**МАТЕРІАЛИ ВСЕУКРАЇНСЬКОЇ НАУКОВОЇ КОНФЕРЕНЦІЇ ВИКЛАДАЧІВ,
АСПІРАНТІВ, СПІВРОБІТНИКІВ ТА СТУДЕНТІВ**

(Суми, 21-22 квітня 2016 року)

Суми
Сумський державний університет
2016

- elimination of monopoly producers, creation of a competitive environment;
- mobilization of material, financial and natural resources that otherwise would remain unused and their more effective use;
- better relationship between the sectors of the economy.

DRIVEN ANHARMONIC OSCILLATOR: CLASSICAL AND QUANTUM ANALYSIS

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The existence of a perfectly isolated quantum system is impossible. In reality, no quantum system is completely isolated from its surroundings, so every quantum system is open to some extent. The dynamics of any open quantum system is described by Lindblad equation [1].

The anharmonic oscillator is one of the most important models in the study of physics. Classically, it is used to describe oscillating systems in which the proportionality between the acting force and the displacement is not purely linear. This is often the case when describing the forces between atoms or molecules, i.e. on a microscopic scale. Therefore, the anharmonic oscillator occupies an important role in the field of quantum mechanics, for example in solid state systems or the theory of dynamical chaos, etc.

We consider the model of open nonlinear quantum oscillator with a periodic modulation. The model has a classical analogue, namely the dissipative nonlinear oscillator that allows the chaotic attractors as an asymptotic solutions. It is expected that a quantum system in terms of Lindblad approximation has quantum attractor, i.e. an asymptotic state, which carries the “prints” of the classical chaos. Our aim of the research is to investigate the relation between the classical dissipative chaos and the quantum attractors of open quantum systems.

We have used the method of quantum jumps to find the quantum attractor of the considered model system. This method allows to reduce the calculations significantly. If N is the number of system states, than we need to average the solutions of Schrödinger quasi-equation only with N variables instead of finding the N^2 variables of Lindblad equation.

After all necessary calculations the aim of this paper has been achieved, namely we have obtained a good agreement between the phase portraits of the considered quantum system and its classical analogue.

1. H.-P. Breuer and F. Petruccione, *The Theory of Open Quantum Systems* (Oxford University Press, 2007).

THE ROLE OF ORGANIZATIONAL CULTURE IN THE WORK OF SOCIAL INSTITUTIONS

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The successful development of any social institution is impossible without systematic renewal, establishing relationships in the team, without a clear mission. So an organizational culture plays very important role in the work of any company and organization. First of all it creates a favorable environment, comfortable climate, understanding between employees and therefore increases productivity. Thus, corporate culture has a great influence on the performance, competitiveness of the organizations, and also a significant impact on a banking system. Corporate culture includes moral norms, values and traditions that have been formed since the formation of the organization and are shared by the majority of its employees.

The main purpose of organizational culture is to set up people to a more efficient performance of their duties and to have fun from their performance. This in turn will lead to better performance of the organization as a whole.

Basic corporate principles of the banks are:

- commitment and legality;
- professionalism and responsibility;
- security and confidentiality.

However, analyzing the experience of domestic banks can sum up that some of them have structural changes, but they are still very far from international standards of work.