

## Nonlinear Sciences &gt; Chaotic Dynamics

# The basic paradoxes of statistical classical physics and the quantum mechanics

Oleg Kupervasser

*(Submitted on 11 Nov 2009 (v1), last revised 5 Apr 2010 (this version, v4))*

The statistical classical mechanics and the quantum mechanics are two developed and well-known theories. The described two theories are known and well studied for a long time. Nevertheless, they contain a number of paradoxes. It forces many scientists to doubt internal consistency of these theories. However the given paradoxes can be resolved within the framework of the existing physics, without introduction of new laws. Further in the paper the paradoxes underlying thermodynamics and the quantum mechanics are discussed. The approaches to solution of these paradoxes are suggested. The first one relies on the influence of the external observer (environment), which disrupts the correlations in the system. The second one is based on the limits of self-knowledge of the system in case of both the external observer and the environment is included in the considered system. The concepts of Observable Dynamics, Ideal Dynamics, and Unpredictable dynamics are introduced. The phenomenon of complex (living) systems is contemplated from the point of view of these Dynamics.

Comments: 168 pages,32 figures, text is written in English and in Russian. New chapters (8,9) about time arrows synchronization/(decoherence) and time arrows synchronization/(decoherence) in quantum gravity are added.

Subjects: **Chaotic Dynamics (nlin.CD)**; Adaptation and Self-Organizing Systems (nlin.AO)

Cite as: [arXiv:0911.2076v4](https://arxiv.org/abs/0911.2076v4) [nlin.CD]

## Submission history

From: Oleg Kupervasser [[view email](#)]

[\[v1\]](#) Wed, 11 Nov 2009 08:11:01 GMT (2870kb)

[\[v2\]](#) Tue, 22 Dec 2009 08:05:52 GMT (2376kb)

[\[v3\]](#) Sun, 10 Jan 2010 19:14:54 GMT (2375kb)

[\[v4\]](#) Mon, 5 Apr 2010 04:35:05 GMT (2440kb)

*[Which authors of this paper are endorsers?](#)*

## Download:

- [PDF only](#)

Current browse context:

nlin.CD

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [0911](#)

Change to browse by:

[nlin](#)

[nlin.AO](#)

## References & Citations

- [CiteBase](#)

## Bookmark (what is this?)

