

# Optical-Wavelength Paramagnetic Phaser (Lecture Notes). Section 3.1. Nonlinear Balance Equations of Motion

D. N. Makovetskii

(Submitted on 12 Jan 2010)

In this work I present a detailed description of the simplest nonlinear model for an optical wavelength paramagnetic phaser, which is an acoustic analog of the class-B lasers. Despite of its simplicity, this model gives a satisfactory explanation of experimental data for optical-wavelength paramagnetic phasers based on high-quality acoustic Fabry-Perot resonators. In particular, this model was successfully used both for qualitative and quantitative interpretation of deterministic chaotic motions observed in spin-phonon system of a nonautonomous ruby phasers at liquid helium temperatures (see [arXiv:0704.0123v1](https://arxiv.org/abs/0704.0123v1) [nlin.CD]).

Comments: 14 pages. This is a section of my work on chaotic dynamics in solid-state dissipative optical-wavelength systems

Subjects: **Optics (physics.optics)**; Other Condensed Matter (cond-mat.other); Chaotic Dynamics (nlin.CD)

Cite as: [arXiv:1001.1868v1](https://arxiv.org/abs/1001.1868v1) [physics.optics]

## Submission history

From: D. N. Makovetskii [[view email](#)]

[v1] Tue, 12 Jan 2010 12:52:49 GMT (227kb)

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

Link back to: [arXiv](#), [form interface](#), [contact](#).

## Download:

- [PDF only](#)

Current browse context:

[physics.optics](#)

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

[new](#) | [recent](#) | [1001](#)

Change to browse by:

[cond-mat](#)

[cond-mat.other](#)

[nlin](#)

[nlin.CD](#)

[physics](#)

## References & Citations

- [CiteBase](#)

## Bookmark (what is this?)

 [CiteULike logo](#)

 [Connotea logo](#)

 [BibSonomy logo](#)

 [Mendeley logo](#)

 [Facebook logo](#)

 [del.icio.us logo](#)

 [Digg logo](#)

 [Reddit logo](#)