**Гинзбург, Павел Борисович.**

## Управление излучением и рассеянием света при помощи плазмонных наноструктур = Tailoring light emission and scattering with plasmonic nanostructures : Tailoring light emission and scattering with plasmonic nanostructures : диссертация ... доктора физико-математических наук : 01.04.05 / Гинзбург Павел Борисович; [Место защиты: ФГАОУ ВО «Национальный исследовательский университет ИТМО»]. - Санкт-Петербург, 2020. - 330 с. : ил.; 14,5х20,5 см.

## Оглавление диссертациидоктор наук Гинзбург Павел Борисович

РЕФЕРАТ

SYNOPSIS

1. LOCALIZED PLASMON RESONANCES

1.1 Localized plasmon resonances as a topological problem

1.2 Nonlinear and nonlocal description of conduction electron plasma

1.3 Quantum effects, inspired by plasmonic particles

1.4 Other nonlinear effects

2. TAILORING LIGHT-MATTER INTERACTIONS WITH HYPERBOLIC METAMATERIALS

2.1 Optical properties of hyperbolic metamaterials

2.2 Light emission in the vicinity of metamaterials

2.3 Energy transfer assisted by metamaterials

2.3. Linear and nonlinear scattering, tailored by hyperbolic metamaterials

3. OPTO-MECHANICAL MANIPULATION WITH AUXILIARY STRUCTURED MEDIA

3.1 Opto-mechanical metamaterials

3.2 Opto-mechanical metasurfaces

3.3 Flat optical elements for opto-mechanical manipulation

3.4 Quantum opto-mechanical effects

4. EMULATION OF COMPLEX OPTICAL PHENOMENA WITH RF CIRCUITRY

4.1 Artificial magnon resonance

4.2 Hyperbolic metamaterials, emulated with spoof plasmons

4.3 Huygens elements and asymmetric electromagnetic responses

4.4. Scattering suppression in metamaterials

Summary and conclusions

Bibliography

APPENDIX A. MAIN JOURNAL PAPERS

РЕФЕРАТ