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The holographic glass bead game : from superconductivity to time machines

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The work described in this thesis is part of the research programme of the Foundation for Fundamental Research on Matter (FOM), which is part of the Netherlands Organisation for Scientific Research (NWO).

The cover shows an allegoric representation of the holographic correspondence as Plato's cave. The material physical reality on the wall of the cave is a projection of ideal holographic archetypes in the bulk. The concept of the cover design is due to Olga Basha, and the concrete realisation is by Marina Vorontsova.

To my parents Alexander and Valentina,
my wife Olga,
and my sister Anastasia

Contents

1 Introduction **1**

1.1 Preface . . . 1
1.2 The holographic principle: the idea. . . . 5
1.3 The AdS/CFT dictionary . . . 11
1.3.1 Anti-de Sitter spacetime . . . 11
1.3.2 Holographic interpretation of AdS spacetime . . . 13
1.3.3 The Gubser-Klebanov-Polyakov-Witten rule . . . 15
1.3.4 AdS/CFT and thermodynamics . . . 18
1.3.5 Correlation functions from holography . . . 21
1.4 The correspondence as a method . . . 25
1.4.1 Minimal viscosity . . . 25
1.4.2 The holographic superconductor . . . 28
1.4.3 AdS/CFT and fermionic matter . . . 32
1.5 This thesis . . . 35

2 Pairing induced superconductivity in holography **45**

2.1 Introduction . . . 45
2.2 Review of fermion spectra in the AdS dual: spin splitting . . . 48
2.3 Self interacting fermions in AdS and a bulk BCS theory . . . 53
2.3.1 Majorana interaction . . . 53
2.3.2 Nambu-Gorkov formalism . . . 53
2.3.3 Perturbative calculation of the scalar source . . . 56
2.3.4 Analytical study of the non-dynamical scalar: double gap equation . . . 58
2.4 Fermionic ordering in holography . . . 61
2.4.1 Purely scalar holographic superconductor . . . 63
2.4.2 Bose-Fermi competition . . . 63
2.4.3 A dynamical BCS scalar and a BCS/BEC crossover 65
2.5 Conclusions . . . 74
2.A Green's functions and charge densities . . . 75
2.B Perturbative solution . . . 77
2.B.1 Perturbative fermion spectrum, AdS-gap equation . . . 77
2.B.2 Simplified Gap equation . . . 79

2.C Numerical methods . . . 80
2.C.1 General strategy . . . 80

3 Holographic phase diagram of quark-gluon plasma formed in heavy-ions collisions 87
3.1 Introduction . . . 87
3.2 Set up . . . 90
3.2.1 Dual conjectures . . . 90
3.2.2 Remarks about the regularization of TS calculations in the case of wall-on-wall collisions . . . 100
3.3 Holographic QGP phase diagram for the central heavy-ions collisions . . . 105
3.4 Holographic QGP phase diagram in the wall-wall dual model of heavy-ions collisions . . . 107
3.4.1 Charged wall as a dual model for a heavy-ion . . . 107
3.4.2 Charged wall-on-wall collision as a dual model for heavy-ions collisions . . . 109
3.4.3 Comparison of the results . . . 111
3.4.4 The square trapped surface calculation . . . 113
3.4.5 Remarks about the regularization . . . 114
3.5 Conclusion . . . 117
3.5.1 Summary . . . 117
3.5.2 Further directions . . . 119

4 Holographic dual of a time machine 127
4.1 Introduction . . . 127
4.2 Time machine in AdS_3 . . . 129
4.3 Entwinement of geodesics and causality violations . . . 134
4.4 Quasigeodesics connecting boundary points . . . 139
4.5 The two point Green's function . . . 147
4.5.1 The algorithm . . . 147
4.5.2 Phenomenology and discussion . . . 152
4.6 Phases of the boundary field theory . . . 156
4.7 Conclusions . . . 159

5 Discussion 165
5.1 Holographic fermions and superconductivity . . . 165
5.2 Holography and the non-equilibrium quark-gluon plasma . . . 167
5.3 Theoretical aspects of time travelling . . . 168

Samenvatting 173

Summary 175

List of Publications 177

Curriculum Vitæ 179

Acknowledgments 181