EMERGENT PROPERTIES OF ACTIVE FLUIDS

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ZHENGYANG LIU

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Acknowledgements

Dedication

To my beloved family for supporting me over the years.

Abstract

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Chapter 2

Experimental Background

2.1 Confocal Laser Scanning Microscopy

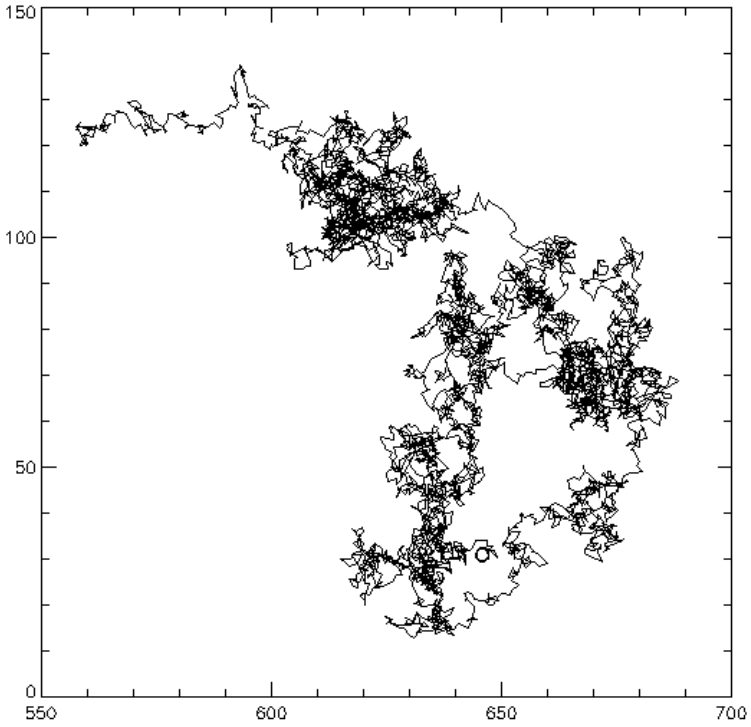

Figure 2.1:

Chapter 3

3D Confinement*

*Reproduced in part with permission from (Bo Zhang and Xiang Cheng, "Structures and dynamics of glass-forming colloidal liquids under spherical confinement", *Physical review letters*, American Physical Society).

Chapter 4

2D Confinement

Chapter 5

1D Strings*

*Reproduced in part with permission from (Yu Abe, Bo Zhang, Leonardo Gordillo, Alireza Mohammad Karim, Lorraine F Francis, and Xiang Cheng, "Dynamic self-assembly of charged colloidal strings and walls in simple fluid flows", *Soft Matter*, Royal Society of Chemistry).

Chapter 6

Summary and Outlook

6.1 Summary

Bibliography

Appendix A

Particle Synthesis

Appendix B

Fluorescent Labelling