Temperature Measurements in Optical Tweezer Experiments

Mathias Höld, BSc.

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1 Introduction

2 Motivation

3 Simulation

To study the problem on the computer, one needs certain techniques. These techniques and their application will be described in this section.

3.1 Molecular Dynamics

3.2 Reduced Units

3.3 The Glass Nanoparticle

The glass particle from the experiment will be represented by a system of particles, interacting via a Lennard-Jones potential of the form

$$U(r) = 4\varepsilon \left[\left(\frac{\sigma}{r} \right)^{12} - \left(\frac{\sigma}{r} \right)^{6} \right] \tag{1}$$

or, using reduced units:

$$U(r^*) = 4 \left[r^{*-12} - r^{*-6} \right] \tag{2}$$

4 Results

5 Conclusion

References