

Effects of the body force on the evacuation dynamics

Abstract

Keywords:

Pedestrian Dynamics, Social Force Model, Body Force

PACS: 45.70.Vn, 89.65.Lm

1. Introduction

2. Background

2.1. The Social Force Model

3. Numerical simulations

4. Results

4.1. Bottleneck

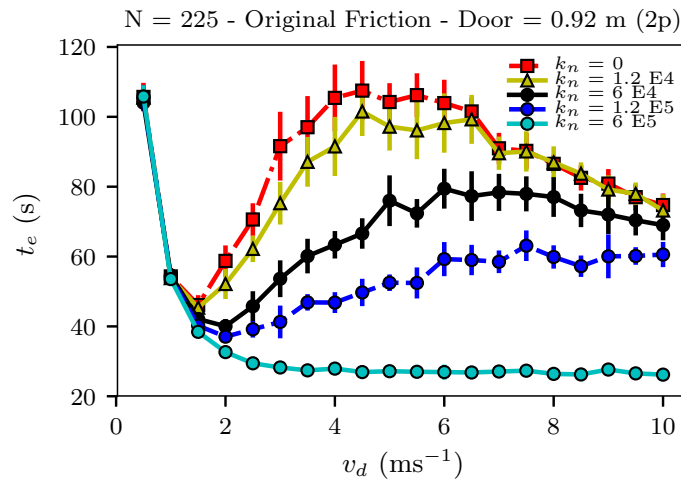
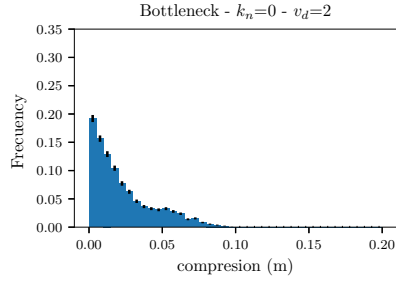
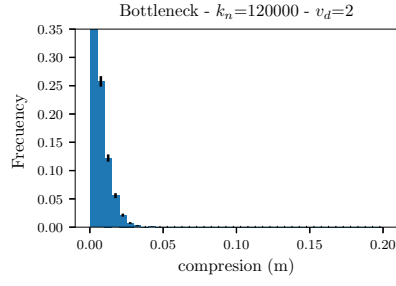


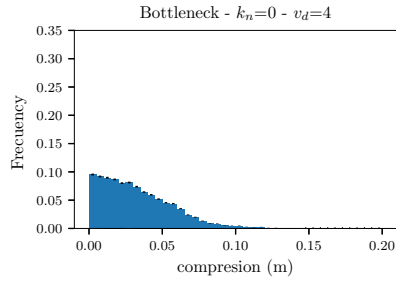
Figure 1:



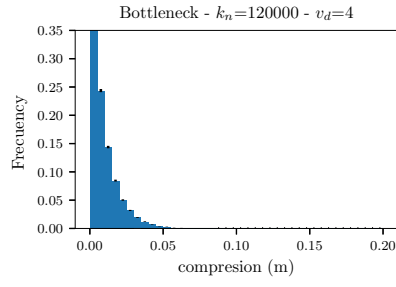
(a)



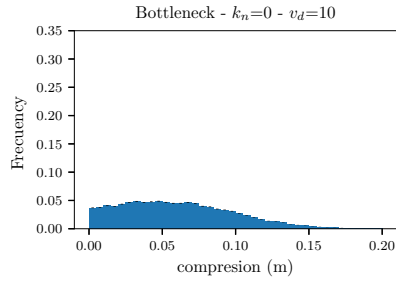
(b)



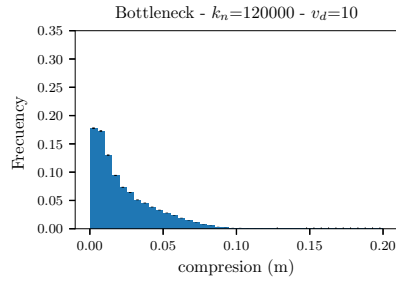
(c)



(d)



(e)



(f)

Figure 2:

4.2. Corridor

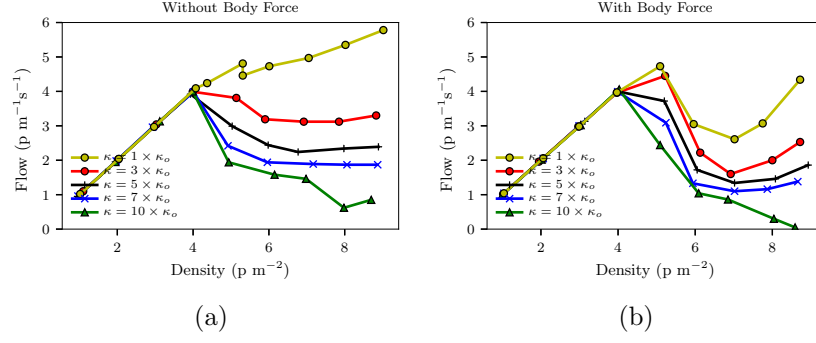


Figure 3:

4.3. Reduced-in-units equation of motion

5. Conclusions

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This work was supported by the National Scientific and Technical Research Council (spanish: Consejo Nacional de Investigaciones Científicas y Técnicas - CONICET, Argentina) grant Programación Científica 2018 (UBA-CYT) Number 20020170100628BA.

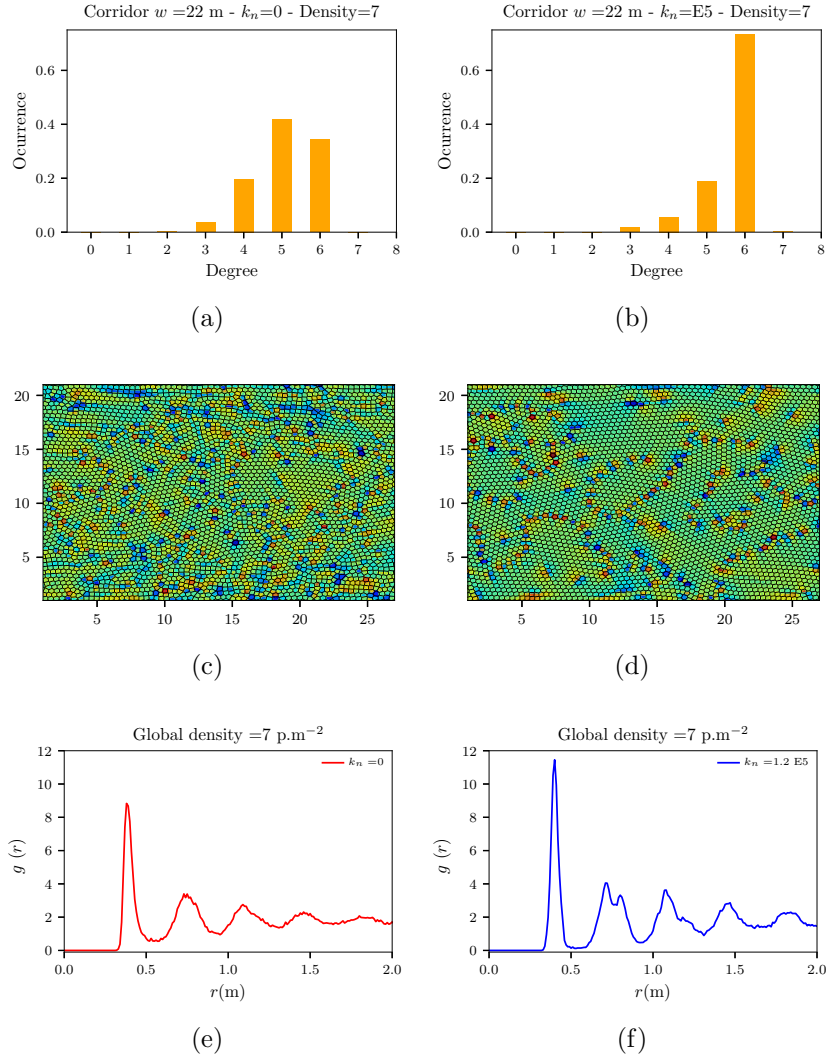


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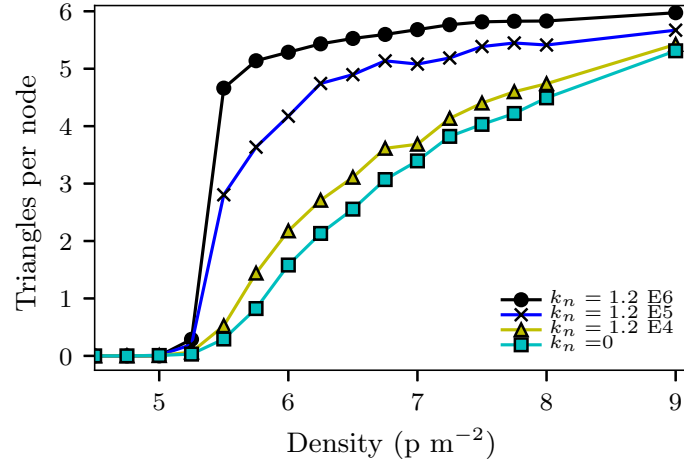


Figure 5:

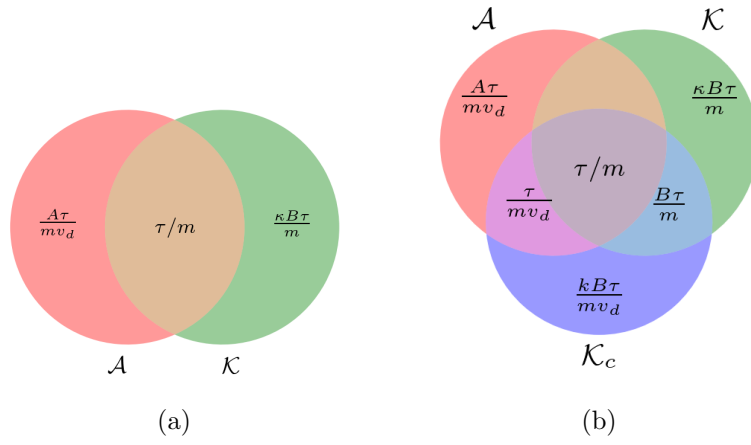


Figure 6: