An Agent-Based Modeling and Simulation of Human Muscle

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Abstract : In this article, we have tried to present an agent-based model of human muscle. A suitable model of muscle is necessary for the analysis of mankind's movements. It can be used by clinical researchers who study the influence of motion sicknesses, like Parkinson's disease. It is also useful in the development of a prosthesis that receives the electromyography signals and generates force as a reaction. Since we have focused on computational efficiency in this research, the model can compute the calculations very fast. As far as it concerns prostheses, the model can be known as a charge-efficient method. In this paper, we are about to illustrate an agent-based model. Then, we will use it to simulate the human gait cycle. This method can also be done reversely in the analysis of gait in motion sicknesses.

Keywords : agent-based modeling and simulation, human muscle, gait cycle, motion sickness
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