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ANALYSIS OF THE APPLICABILITY OF THE ANYBODY MODELING SYSTEM IN MICROGRAVITY ENVIRONMENT

Abstract

Objective: This paper aims to analyze the applicability of the AnyBody Modeling System in microgravity environment. Method: Three subjects made lifting operations with maximal force in Neutral Buoyancy Simulator(NBS). Subjects' operation force, joint angle, feet support force, and surface electromyography(sEMG) were measured. Kinematic synergy adaptation to microgravity was analyzed. Then lifting operations were modeled based on AnyBody. To verify the reliability of the model, the feet support force and muscle contraction force simulated by the model were compared with experimental data. Result: The feet support force and muscle contraction force simulated by the model was similar with corresponding experimental data. Conclusion: The AnyBody Modeling System was suitable for application in microgravity environment.