A motion analysis of humans performing a cooperative task in anteroposterior direction

Abstract

A motion analysis was conducted on two humans namely Leader and Follower, while both of them cooperatively moving an object by their hands from one point to the other in anteroposterior direction. The experimental condition was set by manipulating the information of the cooperative task starting signal and termination position given to the Follower. The Minimum Jerk Model was used to evaluate the smoothness of the cooperative task quantitatively. The result was interesting, when all information is available, the task was smoothly done. If some information is not available, Follower will utilize the force acting on his hand to understand and predict the movement of the Leader during the cooperative task.

Keywords — Cooperative task, follower, leader, minimum jerk model, motion analysis