

Human-human cooperative task characteristics and motion analysis based on human visual and auditory senses

Abstract

To design human cooperative robot it is necessary to take into consideration the factor to make the robot move as smooth as possible during the cooperative task. This is to ensure that human can work with robot with high degree of smoothness that would ensure the task is completed without stress and fatigue to human. Since robot does not know the feeling of human, we need to replicate the human motion characteristic into the robot. In human-human cooperative task normally to achieve good cooperative task, human will use auditory, visual and touch senses. We want to understand what kind of sense at which moment it is uses to get good cooperative task. We arranged the experiment subjects so that they utilized their senses individually during the cooperative task. Experiment devices are equipped with 3D position sensors and force sensors to measure the position, angle and force value. This research is concentrating the force and torque characteristic that occurs to the human participants during human-to-human cooperative work where the human audio, visual and touch senses are applied.

Keywords — Human, robot, cooperation, kansei, sensibility, cooperative task