Developments in High-speed Robot System

**High-speed Robot System**

Our laboratory has been developing high-speed robot system including high-speed vision, high-speed image processing, sensor network, and sensory feedback. For example, we developed a high-speed robot hand which can perform a speed of 180° / 0.1s.

**Human-Robot Interaction**

By using a high-speed vision and a high-speed robot hand, we have constructed super low-latency and real-time human-robot interaction system. As concrete tasks, we have achieved Janken (rock-paper-scissors) robot with 100% winning rate, human-robot cooperation, assistance system and enhancement of human motion.

**Flexible Object Manipulation**

We focus on flexible object manipulation which is considered to be difficult to perform robots, and we aim to achieve dynamic and high-speed manipulation of flexible objects. In the previous researches, we achieved one-handed knotting of a flexible rope and dynamic folding of a cloth using a high-speed robot hand system.