

Software Development for Whole-body Tasks for Humanoid at CNRS-AIST JRL

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Abstract: We present software development for various research subjects related to humanoid robots in the CNRS-AIST JRL (Joint Robotics Laboratory). We are conducting various research activities ranging from cooperative object manipulation, motion planning, to robot control through brain-computer interface. In those researches, the tasks of robots are often specified in workspace such as end-effector position, rather than joint space supported by the basic control software on OpenHRP. Research activities have been accelerated by whole-body control based on the whole-body task resolution scheme called GIK (generalized inverse kinematics) and SoT (stack of tasks) developed at LAAS-CNRS. We would like to share some of those experiences and address recent software development at JRL.