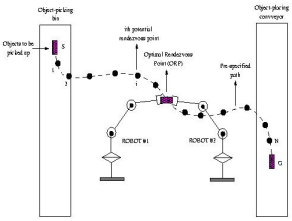
Robotics Cooperation 1
Chairs: Rachid Alami, Tucker Balch

Multi-Robot Target Acquisition using Multiple Objective Behavior Coordination
P. Pirjanian and M. Mataric
University of Southern California

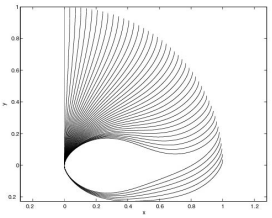
Time-Optimal Rendezvous Planning for Pick-an-Place Task Sharing
M. Mehrandezh and K. Gupta
Simon Fraser University

- Novel concept of sequential task sharing (STS) – like passing a baton in a relay race – for two co-operating robots in assembly
- Finding the time-optimal rendezvous point between two robots in STS mode
- Sample results for two 2-dof robotic manipulators
- STS results in an over 100



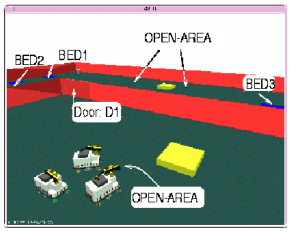
Designing Motion Guides for Ergonomic Collaborative Manipulation
K. Lynch and C. Liu
Northwestern University

- Design of passive guide constraints for ergonomic material handling.
- Optimal control theory and sequential quadratic programming.
- The objective function defines iso-cost force ellipses in the human frame.
- There are two distinct types of motion guides for an infinite weight ratio.


The two kinds of optimal guides to points on a unit circle for an infinite weight ratio

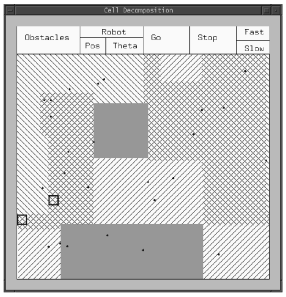
A multi-robot cooperative task achievement system
S. C. Botelho and R. Alami
LAAS/CNRS

- A general architecture for multi-robot cooperation
- Combination of individual planning and coordinated decision
- Illustrated by a simulated system
- Robots that cooperatively enhance their plans



Cooperative Coverage of Rectilinear Environments
Zack J. Butler, Alfred A. Rizzi and Ralph L. Hollis
Carnegie Mellon University

- Sensor-based coverage algorithm
- Cooperation methodolgy
- Completeness proof outline
- Implementation



Covered by robot 0 robot 1 both

A Decentralized Approach to Elementary Formation Maneuvers
J. Lawton, B. Young and R. Beard
Brigham Young University

- Hilare Robot Testbed
- Formation Control
- Passivity-Based Extension
- Hardware Results