

CSCI-4290/6290: Robot Motion Planning
Lecture 18: November 4, 2003
Multiple Robot Coordination

Announcements

- Assignment 5 is due today.
- Please submit your (revised) course project proposal on Friday, November 7.
- Schoffstall Lectures: Dr. Takeo Kanade (CMU) will talk about:
 1. “Video Acquisition, Processing and Modeling of a Dynamic Scene by Many Cameras”, Nov. 5, DCC 318, 4:00–5:00 p.m.
 2. “Subspace Methods for Image Analysis”, Nov. 6, CII 4050, 10:30–11:30am.

Today’s Class

We will then begin our discussion of *motion planning for multiple moving objects* by first considering motion planning for a robot among moving obstacles with known velocities. This is similar to an asteroid avoidance task for a spaceship.

1. Configuration-time space
2. Approximate cell decomposition approach
3. Velocity tuning approach

We will then consider *motion planning for multiple robots*.

1. Centralized planning and the composite configuration space
2. Prioritized planning

Reading

Chapter 8 through 8.2, Latombe.

Next Class

Nonholonomic planning, and Multiple robot coordination.