

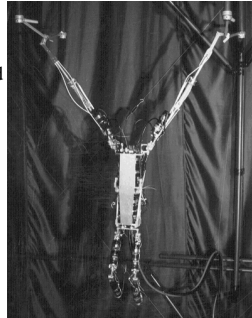
Bipedal and Climbing Robots

Chairs: Toshio Fukuda, Gill A. Pratt

Behavior Coordination and its Modification on Brachiation-type Mobile Robot

Y. Hasegawa, Y. Ito and T. Fukuda
Nagoya University

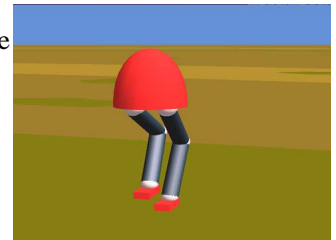
- Novel adaptation method for a behavior-based locomotion robot
- Adjusts the activation level of each behavior controller
- Apply to task changing of BrachiatorIII
- Achieve continuous locomotion behavior



A General Control Architecture for Dynamic Bipedal Walking

Chee-Meng Chew and Gill Pratt
Massachusetts Institute of Technology

- Motivation and Objective
- Proposed Approach
- Simulation Results
- Conclusions

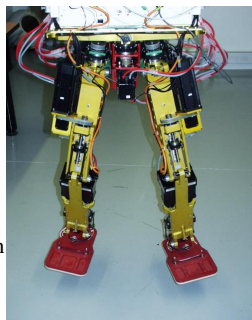


The Anthropomorphic Biped Robot BIP2000

B. Espiau¹ and P. Sardain²

¹INRIA and LMS and ²Laboratoire de Mecanique des Solides

- Design of a biped robot with 15 dofs (lower part only)
- Originalities: mechanical structure, control algorithms and architecture
- Results: 2 robots built; they move.
- Testbed for further studies in locomotion and posture

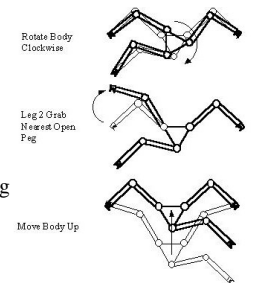


Action Module Planning and its Application to an Experimental Climbing Robot

D. M. Bevly¹, S. Farritor² and S. Dubowsky³

¹Stanford University, ²University of Nebraska and ³Massachusetts Institute of Technology

- A planning methodology is studied for a laboratory climbing robot
- Plans are assembled from basic actions and consider physical constraints
- An experimentally implemented climbing gate is produced
- The method produces physically realizable plans



LIBRA Action Modules

Analysis and synthesis of human motion from external measurements

B. Dariush¹, H. Hemami² and M. Parnianpour²

¹Honda R&D Americas, Inc. and ²The Ohio State University

- The motivation is to develop an accurate method for estimating human joint moments from motion capture data.
- The technique is based linear quadratic optimal control theory.
- The experimental results for a five segment sagittal human model performing a lifting task are presented.
- The algorithm is robust in tracking the measured data.