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THE FIELDS INSTITUTE

FOR RESEARCH IN MATHEMATICAL SCIENCES

SEMINAR SERIES ON CONTROL THEORY

SPEAKER:

JOHN BALLIEUL
Aerospace/Mechanical Engineering
Boston University

On the Topic

"Resolution of kinematic redundancy and non-holonomic motion planning for robots with elastic components"

will be held

Thursday, February 13th, 1992 at 1:30 p.m.

at

Fields Institute
3rd Floor, Uni-Park 3
185 Columbia Street West
Waterloo

There is typically an infinite multiplicity of solutions to the inverse kinematics problem for a kinematically redundant mechanism (e.g. a robot manipulator having more than six articulated joints). General methods for selecting from among these solutions are said to "resolve the redundancy". This talk will briefly survey a variety of approaches which have been proposed for resolving kinematic redundancy. We shall discuss our recent work on pathwise resolution of kinematic redundancy for manipulators containing elastic members. Some of this work is closely related to recent results in the control theory of nonholonomic mechanical systems.