SEMINAIRE MATHEMATIQUE-INFORMATIQUE

Projet SAFIR
UNSA - INRIA - CNRS :
«*Systèmes Algébriques Formels pour l'Industrie et la Recherche* »

Lieu: *INRIA*,
2004, route des Lucioles,
Sophia Antipolis,
Salle E003.
Autre accès: `http://www.inria.fr/safir/MEETING/seminaires.html`

Organisation : *Bernard Mourrain.*
Secrétariat : *France Limouzis.*
Projet : *SAFIR.*
`[mourrain, limouzis]@sophia.inria.fr`

Le Lundi 7 Juillet, à 14 Heures, Salle du Conseil :

Hirohisa Hirukawa

Electro Technical Lab., Tsukuba, Japon

«*On Motion Planning and/or Teaching of Polyhedra in Contact* »

We have been studying motion planning of polyhedra in contact, which has a crucial role to automate mechanical assembly processes. We have being attacking this problem based on an algebraic formulation. We first revisit our complete and implemented algorithm for motion planning of convex polyhedra in contact quickly to see that the complexity of the algebraic part heavily depends how the geometric problem is reduced to it. Then we present a predicate for nonconvex polyhedra being in contact without overlapping, and investigate algorithms to be applied to the nonconvex case. We also show a simulator for motions of objects in contact, by which we can teach various motions interactively.