

1098-93-65

Donghua Shi* (dshi@ncsu.edu), Department of Mathematics, North Carolina State University, Raleigh, NC. *Virtual Constraints in the formation Control of Automatic Vehicles*. Preliminary report.

This talk presents applications of virtual constraints which are nonphysical constraints making an attractor for the dynamics of close loop system in the formation control of Automatic Vehicles. The Matching and Homotopic methods are proposed for its control implementation in the framework of nonholonomic systems. We also discuss its relation with Controlled Lagrangian Method and Optimal Control. Flexible virtual constraints will also be introduced. (Received January 07, 2014)