

Fast humanoid robot collision-free footstep planning using swept volume approximations

Nicolas Perrin,^{1,2} Olivier Stasse,² Florent Lamiraux¹ and Eiichi Yoshida²

**1: CNRS/LAAS, Université de Toulouse UPS, INSA, INP, ISAE
7 avenue du colonel Roche, F-31077 Toulouse, France**

**2: CNRS-AIST Joint Robotics Laboratory, UMI3218/CRT,
Tsukuba, Japan**