

Randomized Algorithms Control Toolbox

RACT is a MATLAB™ toolbox for probabilistic analysis and synthesis of uncertain control systems

Main features

- ✓ Define a variety of **uncertain objects**: scalar, vector and matrix uncertainties, with different density functions
- ✓ Easy and fast **sampling of uncertain objects** of almost any type
- ✓ **Randomized algorithms** for probabilistic performance verification and probabilistic worst-case performance
- ✓ **Randomized algorithms** for feasibility of uncertain LMIs using stochastic gradient, ellipsoid or cutting plane methods
- ✓ **Optimal design** methods using scenario approach

RACT has been developed at IEIIT - CNR (Politecnico di Torino, Italy) and at Institute for Control Sciences - RAS (Moscow, Russia) by A. Tremba, G. Calafiore, F. Dabbene, E. Gryazina, B. Polyak, P. Shcherbakov, R. Tempo

RACT can be freely downloaded at

<http://ract.sourceforge.net>