Shaping a Swarm Using Wall Friction and a Shared Control Input

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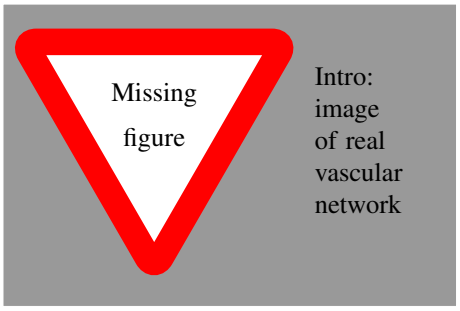
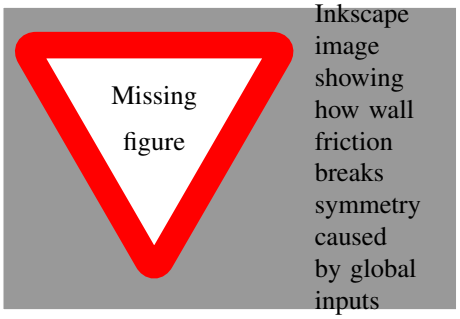
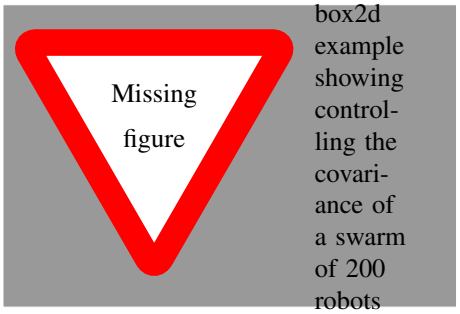
***Abstract*—**



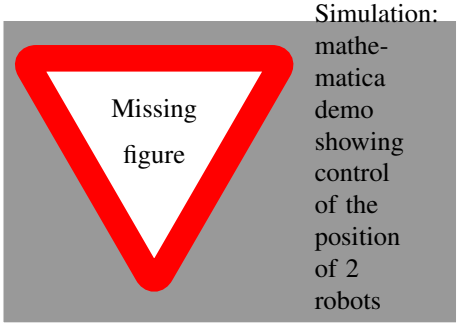
Intro: image of real vascular network



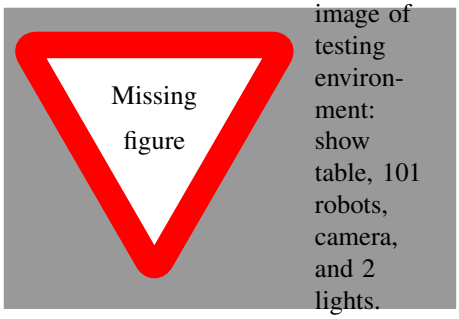
Theory: Inkscape image showing how wall friction breaks symmetry caused by global inputs



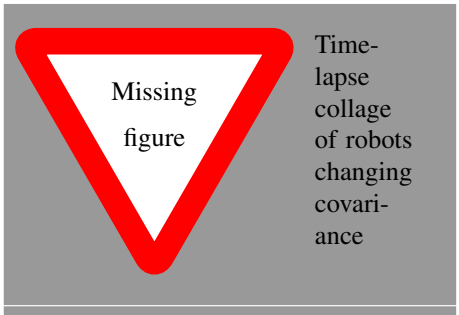
Simulation: box2d example showing controlling the covariance of a swarm of 200 robots



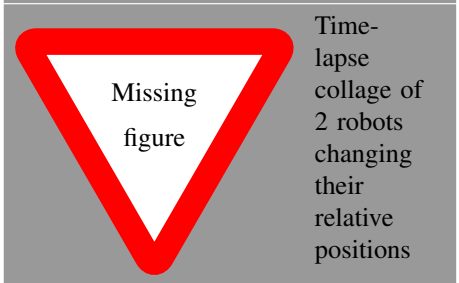
Simulation: mathematica demo showing control of the position of 2 robots



Experiment: image of testing environment: show table, 101 robots, camera, and 2 lights.



Time-lapse collage of robots changing covariance



Time-lapse collage of 2 robots changing their relative positions

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