Seminário de Sistemas Dinâmicos

# Rigid-body stabilization using the theory of hybrid dynamical systems

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Miniauditório do MAT

**Abstract**. Motivated by applications in robotic and mechanical systems in general, many works on control theory literature consider stabilization problems of dynamical systems defined on Lie groups, in particular, the groups SO(3), SE(3), of the unit quaternions and of the unit dual quaternions. In this talk, we review some problems related to rigid-body pose stabilization in these groups and how to mitigate these problems by using the hybrid dynamical systems framework proposed by Andrew R. Teel, Rafal Goebel and Ricardo G. Sanfelice [1].

## References

[1] Goebel, Rafal, Ricardo G. Sanfelice, and Andrew R. Teel. Hybrid Dynamical Systems: modeling, stability, and robustness. Princeton University Press, 2012.