

Automated Reasoning for Hybrid Systems

— Two Case Studies —

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Motivation

- Kleene algebras provide are suitable for automated reasoning [HöfnerStruth07]
- hybrid systems are related to variants of Kleene algebra [HöfnerMöller05]

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Is automated algebraic reasoning for hybrid system feasible?

Results

- automated algebraic reasoning is feasible
- two case studies
 - kljsahf

proof experiments to show how concrete properties of hybrid systems, like safety and liveness, can be algebraically characterised and how off-the-shelf automated theorem provers can be used to verify them.