

Publications for Patrik Axelsson

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PhD Thesis

Patrik Axelsson. *Sensor Fusion and Control Applied to Industrial Manipulators*. Linköping Studies in Science and Technology. Dissertations No. 1585, Linköping University, SE-581 83 Linköping, Sweden, May 2014.

Licentiate's Thesis

Patrik Axelsson. *On Sensor Fusion Applied to Industrial Manipulators*. Linköping Studies in Science and Technology. Licentiate Thesis No. 1511, Linköping University, SE-581 83 Linköping, Sweden, December 2011.

Journal Papers

André Carvalho Bittencourt and Patrik Axelsson. Modeling and experiment design for identification of wear in a robot joint under load and temperature uncertainties based on friction data. *IEEE/ASME Transactions on Mechatronics*, 19(5):1694–1706, October 2014.
DOI: 10.1109/TMECH.2013.2293001.

Patrik Axelsson, Rickard Karlsson, and Mikael Norrlöf. Bayesian state estimation of a flexible industrial robot. *Control Engineering Practice*, 20(11):1220–1228, November 2012. DOI: 10.1016/j.conengprac.2012.06.004.

Conference Papers

Patrik Axelsson, Anders Helmersson, and Mikael Norrlöf. H-infinity controller design methods applied to one joint of a flexible industrial manipulator. In *Proceedings of the 19th IFAC World Congress*, Cape Town, South Africa, August 2014. Accepted for publication.

Patrik Axelsson, Goele Pipeleers, Anders Helmersson, and Mikael Norrlöf. H-infinity synthesis method for control of non-linear flexible joint models. In *Proceedings of the 19th IFAC World Congress*, Cape Town, South Africa, August 2014. Accepted for publication.

Niklas Wahlström, Patrik Axelsson, and Fredrik Gustafsson. Discretizing stochastic dynamical systems using Lyapunov equations. In *Proceedings of the 19th IFAC World Congress*, Cape Town, South Africa, August 2014. Accepted for publication.

Patrik Axelsson, Rickard Karlsson, and Mikael Norrlöf. Estimation-based ILC using particle filter with application to industrial manipulators. In *Proceedings of the IEEE/RSJ International Conference on Intelligent Robots and Systems*, pages 1740–1745, Tokyo, Japan, November 2013.

Patrik Axelsson. Evaluation of six different sensor fusion methods for an industrial robot using experimental data. In *Proceedings of the 10th International IFAC Symposium on Robot Control*, pages 126–132, Dubrovnik, Croatia, September 2012.

Patrik Axelsson and Mikael Norrlöf. Method to estimate the position and orientation of a triaxial accelerometer mounted to an industrial manipulator. In *Proceedings of the 10th International IFAC Symposium on Robot Control*, pages 283–288, Dubrovnik, Croatia, September 2012.

Patrik Axelsson, Rickard Karlsson, and Mikael Norrlöf. Tool position estimation of a flexible industrial robot using recursive Bayesian methods. In *Proceedings of the IEEE International Conference on Robotics and Automation*, pages 5234–5239, St. Paul, MN, USA, May 2012.

Patrik Axelsson, Umut Orguner, Fredrik Gustafsson, and Mikael Norrlöf. ML estimation of process noise variance in dynamic systems. In *Proceedings of the 18th IFAC World Congress*, pages 5609–5614, Milano, Italy, August/September 2011.

André Carvalho Bittencourt, Patrik Axelsson, Ylva Jung, and Torgny Brogårdh. Modeling and identification of wear in a robot joint under temperature uncertainties. In *Proceedings of the 18th IFAC World Congress*, pages 10293–10299, Milano, Italy, August/September 2011.

National Conference Papers

Niklas Wahlström, Patrik Axelsson, and Fredrik Gustafsson. Discretizing stochastic dynamical systems using Lyapunov equations. In *Proceedings of Reglermötet*, Linköping, Sweden, June 2014.

Patrik Axelsson, Daniel Axehill, Torkel Glad, and Mikael Norrlöf. Iterative learning control – from a controllability point of view. In *Proceedings of Reglermötet*, Linköping, Sweden, June 2014.

Patrik Axelsson, Rickard Karlsson, and Mikael Norrlöf. Bayesian methods for estimating tool position of an industrial manipulator. In *Proceedings of Reglermötet*, Uppsala, Sweden, June 2012.

Patrik Axelsson, Mikael Norrlöf, Erik Wernholt, and Fredrik Gustafsson. Extended Kalman filter applied to industrial manipulators. In *Proceedings of Reglermötet*, Lund, Sweden, June 2010.

Technical Reports

Patrik Axelsson, Anders Helmerson, and Mikael Norrlöf. Single joint control of a flexible industrial manipulator using h-infinity loop shaping. Technical Report LiTH-ISY-R-3053, Department of Electrical Engineering, Linköping University, SE-581 83 Linköping, Sweden, October 2012.

Patrik Axelsson. Simulation model of a 2 degrees of freedom industrial manipulator. Technical Report LiTH-ISY-R-3020, Department of Electrical Engineering, Linköping University, SE-581 83 Linköping, Sweden, June 2011.

Patrik Axelsson. Grupprocessens roll i cdio-projekten. Technical Report LiTH-ISY-R-3021, Department of Electrical Engineering, Linköping University, SE-581 83 Linköping, Sweden, June 2011.

Patrik Axelsson and Ylva Jung. Lego segway project report. Technical Report LiTH-ISY-R-3006, Department of Electrical Engineering, Linköping University, SE-581 83 Linköping, Sweden, March 2011.

Patrik Axelsson and Mikael Norrlöf. Estimation of orientation and position of an accelerometer mounted to an industrial manipulator. Technical Report LiTH-ISY-R-2995, Department of Electrical Engineering, Linköping University, SE-581 83 Linköping, Sweden, February 2011.

Patrik Axelsson. A simulation study on the arm estimation of a joint flexible 2 DOF robot arm. Technical Report LiTH-ISY-R-2926, Department of Electrical Engineering, Linköping University, SE-581 83 Linköping, Sweden, December 2009.