

Research Publications written by Gregor Gregorčič

Updated: Sunday, October 29, 2017

Summary:

- 1 approved patent
- 1 pending patent
- 9 journal papers
- 1 book chapter
- 2 invited papers
- 10 conference papers
- 3 posters

Approved patent: Patent entitled as “Verfahren und eine Vorrichtung zur Prüfung des Antriebsstrangs von zumindest teilweise elektrisch betriebenen Fahrzeugen”, patent number: 13726711.8 1557 was aproved on: 25. 02. 2015.

Pending patent: Patent entitled as “Two Degree of Freedom Torque Controller for Engine Testbeds”, PQ30867, was filled on: 09. 06. 2015.

- [1] G. Gregorčič and G. Lightbody. Gaussian process internal model control. *International Journal of Systems Science*, 43(11):2079–2094, Nov. 2012.
- [2] G. Gregorčič and G. Lightbody. Nonlinear model-based control of highly nonlinear processes. *Computers & Chemical Engineering*, 34(8):1268–1281, Aug. 2010.
- [3] G. Gregorčič and G. Lightbody. Gaussian process approach for modelling of nonlinear systems. *Engineering Applications of Artificial Intelligence*, 22(4-5):522–533, Jun. 2009.
- [4] G. Gregorčič and G. Lightbody. Nonlinear system identification: From multiple-model networks to Gaussian processes. *Engineering Applications of Artificial Intelligence*, 21(7):1035–1055, Oct. 2008.
- [5] G. Gregorčič and G. Lightbody. Local model network identification with Gaussian processes. *IEEE Transactions on Neural Networks*, 18(5):1404–1423, Sep. 2007.
- [6] O. König, G. Gregorčič, and Stefan Jakubek. Model predictive control of a DC-DC converter for battery emulation. *Control Engineering Practice*, 21(4):428–440, Apr. 2013.

- [7] S. Faul, G. Gregorčič, G. Boylan, W. Marname, G. Lightbody, and S. Connolly. Gaussian process modelling of EEG for the detection of neonatal seizures. *IEEE Transactions on Biomedical Engineering*, 54(12):2151–2162, Dec. 2007.
- [8] G. Gregorčič and G. Lightbody. An affine Gaussian process approach for non-linear system identification. *Systems Science*, 29(2):47–63, 2003.
- [9] G. Gregorčič and G. Lightbody. Primerjava med večmodelnim pristopom in metodo premikanja polov za vodenje in regulacijo zelo nelinearnih sistemov. *Raziskovalno delo podiplomskih študentov Slovenije, Naravoslovje in tehnika*, pages 251–260, Nov. 2000.
- [10] G. Gregorčič and G. Lightbody. Gaussian process approaches to nonlinear modelling for control. In A. E. Ruano, editor, *Intelligent Control Systems Using Computational Intelligence Techniques*, IEE Control Engineering Series 70, chapter 6, pages 177–217. IEE, London, UK, 2005.
- [11] G. Gregorčič, F. Oberlechner, and P. Drage. Modeling and control of thermal cycles in vehicle electrification. In *Proceedings of the IEEE 25th Mediterranean Conference on Control and Automation (MED)*, pages 198–203, Valletta, Malta, Jul. 2017.
- [12] T. Schopper and G. Gregorčič. Novel concept for energy management in hybrid vehicles. In *EEHE 2013 – Conference on Electric & Electronic Systems in Hybrid and Electric Vehicles and Electrical Energy Management*, Bamberg, Germany, Apr. 2013.
- [13] G. Gregorčič and G. Lightbody. An affine local Gaussian process model network (Invited paper). In *Proceedings of the IEE International Conference on Systems Engineering*, pages 206–210, Coventry, United Kingdom, Sep. 2003.
- [14] G. Gregorčič and G. Lightbody. From multiple model network to Gaussian processes prior models (Invited paper). In A. E. Ruano, editor, *Proceedings of the IFAC International Conference on Intelligent Control Systems and Signal Processing ICONS 2003*, pages 149–154, Faro, Portugal, Apr. 2003.
- [15] G. Gregorčič and G. Lightbody. Internal model control based on a Gaussian process prior model. In *Proceedings of the 2003 American Control Conference*, pages 4981–4986, Denver, Colorado USA, Jun. 2003.
- [16] G. Gregorčič and G. Lightbody. Gaussian processes for internal model control. In A. Rakar, editor, *Proceedings of the 3rd International PhD Workshop: Advances in Supervision and Control Systems, Young Generation Viewpoint*, pages 39–46. Strunjan, Slovenia, Oct. 2002.
- [17] G. Gregorčič and G. Lightbody. Gaussian processes for modelling of dynamic non-linear systems. In *Proceedings of the Irish Signals and Systems Conference ISSC2002*, pages 141–147, Cork, Ireland, Jun. 2002.

- [18] G. Gregorčič, A. Mullane, and G. Lightbody. Simulink implementation of adaptive control and multiple model network control. In *Proceedings of the Nordic MATLAB Conference*, pages 167–173, Trondheim, Norway, Oct. 2001.
- [19] S. Faul, G. Gregorčič, G. Boylan, W. Marnane, G. Lightbody, and S. Connolly. Gaussian process modelling as an indicator of neonatal seizure. In *Proceedings of the 3rd IASTED International Conference on Signal Processing, Pattern Recognition and Applications (SPPRA 2006)*, pages 177–182, Innsbruck, Austria, Feb. 2006.
- [20] A. Mullane, G. Gregorčič, G. Lightbody, and R. Yacamini. A variable step size C-MEX S-Function for reduced simulation times of variable speed drives. In *Proceedings of the Nordic MATLAB Conference*, pages 60–65, Trondheim, Norway, Oct. 2001.
- [21] G. Gregorčič and G. Lightbody. Control of highly nonlinear processes using self-tuning control and multiple/local model approaches. In *INES 2000, 2000 IEEE International Conference on Intelligent Engineering Systems*, pages 171–167. Portorož, Slovenia, Sep. 2000.
- [22] G. Gregorčič and G. Lightbody. A comparison of multiple model and pole-placement self-tuning for the control of highly nonlinear processes. In *Proceedings of the Irish Signals and Systems Conference*, pages 303–311, Dublin, Ireland, Jun. 2000.
- [23] G. Gregorčič and G. Lightbody. Internal model control based on gaussian process prior model. *Poster presented at Workshop on Modern Methods for Data Intensive Modelling of Nonlinear Dynamic Systems*, Hamilton Institute — NUI Maynooth, Ireland, Sept. 2002.
- [24] G. Gregorčič and G. Lightbody. Parametrical modelling of non-linear systems. *Poster presented on Multi Agent Control summer school*, Kranjska gora, Slovenia, Sept. 2001.
- [25] W. Phang and G. Gregorčič. Filter design for converter-FED subsea motor drives. *Poster presented at the Royal Irish Academy, on the “Engineering design in an academic environment” conference*. 19 Dawson Street, Dublin, Ireland, Oct. 2000.

www.gregorcic.net