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Brief biography

Florian Dörfler is an Assistant Professor at ETH Zürich. He received his Ph.D. degree in Mechanical Engineering from the University of California at Santa Barbara in 2013, and a Diplom degree in Engineering Cybernetics from the University of Stuttgart in 2008. From 2013 to 2014 he was an Assistant Professor at the University of California Los Angeles. His students were finalists for Best Student Paper awards at the European Control Conference (2013) and the American Control Conference (2016). His articles received the 2010 ACC Student Best Paper Award, the 2011 O. Hugo Schuck Best Paper Award, the 2012-2014 Automatica Best Paper Award, and the 2016 IEEE Circuits and Systems Guillemín-Cauer Best Paper Award. He is a recipient of the 2009 Regents Special International Fellowship, the 2011 Peter J. Frenkel Foundation Fellowship, and the 2015 UCSB ME Best PhD award.

Research interests

Florian Dörfler's research interests are centered around distributed control and optimization in complex, cyber-physical, and networked systems with applications to smart power grids, robotic coordination, and social networks. Topics of recent interest include plug-and-play control and optimization in microgrids, distributed and optimal wide-area control in bulk power systems, stability and control of low-inertia power transmission grids, and synchronization and complex dynamics in interconnected network systems.

Selected publications

- B.K. Poolla, S. Bolognani, and F. Dörfler, "Optimal placement of virtual inertia in power grids," *IEEE Transactions on Automatic Control*, Submitted. Available at <http://arxiv.org/abs/1510.01497>.
- J. W. Simpson-Porco, F. Dörfler, and F. Bullo, "Voltage collapse in complex power grids," *Nature Communications*, vol. 7, 2015.
- F. Dörfler, M. Chertkov, and F. Bullo, "Synchronization in complex oscillator networks and smart grids," *Proceedings of the National Academy of Sciences*, vol. 110, no. 6, pp. 2005–2010, 2013.
- F. Dörfler and F. Bullo, "Kron reduction of graphs with applications to electrical networks," *IEEE Transactions on Circuits and Systems I: Regular Papers*, vol. 60, no. 1, pp. 150–163, 2013.
- F. Pasqualetti, F. Dörfler, and F. Bullo, "Attack detection and identification in cyber-physical systems," *IEEE Transactions on Automatic Control*, vol. 58, no. 11, pp. 2715–2729, 2013.
- X. Wu, F. Dörfler, and M. R. Jovanovic. "Input-output analysis and decentralized optimal control of inter-area oscillations in power systems," *IEEE Transactions on Power Systems*, February 2015. In press. Available at <http://arxiv.org/abs/1502.03221>.