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Brief biography

Florian Dörfler is an Associate Professor at the Automatic Control Laboratory 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 winners or finalists for Best Student Paper awards at the European Control Conference (2013, 2019), the American Control Conference (2016), and the PES PowerTech Conference (2017). He is furthermore a recipient of the 2010 ACC Student Best Paper Award, the 2011 O. Hugo Schuck Best Paper Award, the 2012-2014 Automatica Best Paper Award, the 2016 IEEE Circuits and Systems Guillemin-Gauer Best Paper Award, and the 2015 UCSB ME Best PhD award.

Research interests

Florian Dörfler's primary research interests are centered around control, optimization, and system theory with applications in network systems such as electric power grids, robotic coordination, and social networks. Topics of recent interest include stability and control in low-inertia power grids, online feedback optimization with applications to power systems operation, distributed control and optimization, data-driven control, social network dynamics and formation, and synchronization in complex networks.

Selected publications

- C. Arghir, T Jouini, and F. Dörfler. "Grid-forming Control for Power Converters based on Matching of Synchronous Machines". *Automatica*, 2017. To appear. Available at <https://arxiv.org>.
- B.K. Poolla, S. Bolognani, and F. Dörfler, "Optimal placement of virtual inertia in power grids," *IEEE Transactions on Automatic Control*, 62(12):6209-6220, December 2017.
- A. Hauswirth, A. Zanardi, S. Bolognani, F. Dörfler, and G Hug, "Online optimization in closed loop on the power flow manifold," *In IEEE PES PowerTech Manchester*, pages 1–6, June 2017.
- 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.