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## ONE WORLD OPTIMIZATION SEMINAR

October 26<sup>th</sup>, 2020 @ 15:30 CET (Central European Time)

**MICHAEL P. FRIEDLANDER**

(University of British Columbia)

### **Polar Deconvolution of Mixed Signals**

**Abstract.** The signal demixing problem seeks to separate the superposition of multiple signals into its constituent components. We model the superposition process as the polar convolution of atomic sets, which allows us to use the duality of convex cones to develop an efficient two-stage algorithm with sublinear iteration complexity and linear storage. If the signal measurements are random, the polar deconvolution approach stably recovers low-complexity and mutually-incoherent signals with high probability and with optimal sample complexity. Numerical experiments on both real and synthetic data confirm the theory and efficiency of the proposed approach.

Joint work with Zhenan Fan, Halyun Jeong, and Babhru Joshi at the University of British Columbia.

*The link of the zoom-room of the meeting and the corresponding password will be announced the day before the talk on the mailing list of the seminar, to which one can subscribe on <https://owos.univie.ac.at>.*