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*Monotone operators and convex analysis in multi-marginal settings*

Motivated by multi-marginal optimal transport, we discuss aspects of its underlying monotone and convex analytic structure. We review recent extensions of classical maximal monotonicity and convex analysis into multi-marginal settings. We point out several open questions as well as partial resolutions and examples. In particular, we focus on an extension of Minty's characterization of maximal monotonicity and a generalization of the maximal monotonicity of the convex subdifferential.