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**Title:** Accelerating message-passing using global information.

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**Abstract:** Belief Propagation is a message-passing protocol used in probabilistic inference and optimization. In optimization, Belief Propagation is used to optimize a sum of functions supported over a graph structure. Here the algorithm takes the name of Min-Sum. For the consensus problem in distributed convex optimization, we show that global information on the underlying graph structure can be embedded into the ordinary Min-Sum scheme to accelerate the convergence rate toward the problem solution. The acceleration scheme that we apply bears similarities with lifted Markov chains techniques and with multi-step first order methods.