1163-90-1567 **Mareike Dressler*** (mdressler@ucsd.edu), Department of Mathematics, University of California, San Diego, La Jolla, CA 92093, and **Janin Heuer**, **Helen Naumann** and **Timo de Wolff**. *Global Optimization via the Dual SONC Cone and Linear Programming.*

Using the dual cone of sums of nonnegative circuits (SONC), we provide a relaxation of the global optimization problem to minimize an exponential sum and, as a special case, a multivariate real polynomial. Our approach builds on two key observations. First, that the dual SONC cone is contained in the primal one. Hence, containment in this cone is a certificate of nonnegativity. Second, we show that membership in the dual cone can be verified by a linear program. We implement the algorithm and present initial experimental results comparing our method to existing approaches. (Received September 15, 2020)