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Tai Ha* (tha@tulane.edu), Tulane University, New Orleans, LA 70118. *Containments between powers of monomial ideals and optimal solutions to linear programming problems.*

We present a close relationship between membership criteria for powers of a monomial ideal and the optimal solutions to certain linear programming problems. This relationship allows us to use known gap estimates for these optimal solutions to derive new containments between powers of a monomial ideal and, at the same time, use known containments between powers of an ideal to get new estimates for those gaps. (Received August 28, 2018)