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Michael DiPasquale* (michael.dipasquale@colostate.edu), Colorado State University,
Department of Mathematics, 1874 Campus Delivery, Fort Collins, CO 80523. *A generalization of
Wilf's Conjecture.*

Wilf's conjecture is a long standing open problem about the density of holes in a numerical semigroup, which is a submonoid of the natural numbers \mathbb{N} with finite complement. We propose a generalization of Wilf's conjecture for submonoids of \mathbb{N}^d with finite complement (called generalized numerical semigroups). We prove this conjecture for several large classes of generalized numerical semigroups, including irreducible, symmetric, and monomial classes.

We also discuss the relationship of our conjecture to a different generalization of Wilf's conjecture proposed by García-García, Marín-Aragón, and Vigneron-Tenorio. This is joint work with C. Cisto, G. Failla, Z. Flores, C. Peterson, and Rosanna Utano. (Received September 11, 2019)