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Counting the number of numerical semigroups using polytopes.

Numerical semigroups are additive monoids of the nonnegative integers that have finite complements. In 2008, Bras-Amorós conjectured that the number of numerical semigroups with genus g is increasing in g . In this talk, we discuss partial results for this conjecture. We will show how some families of numerical semigroups are in bijection with integer points in certain polytopes and explain how geometric techniques lead to enumerative results. (Received September 16, 2019)