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Title: Symmetric proportionally modular Diophantine inequalities

Author(s): José Carlos Rosales

We show that a proportionally modular numerical semigroup not containing the integer 2 is symmetric if and only if it is the set of integer solutions of an inequality of the form $(ab - 1)x \bmod b^2 \leq (b - 2)x$, where a and b are positive integers such that $a < b$ and $\gcd\{a, b\} = \gcd\{a - 1, b\} = 1$. We also obtain an easy procedure to compute the number of symmetric proportionally modular numerical semigroups with a given Frobenius number.

Address:

José Carlos Rosales

Departamento de Álgebra
Universidad de Granada
E-18071 Granada
Spain
E-mail: jrosales@ugr.es

Address:

J. M. Urbano-Blanco
Departamento de Álgebra
Universidad de Granada
E-18071 Granada
Spain
E-mail: jurbano@ugr.es

Address:

P. Vasco
Departamento de Matemática
Universidade de Trás-os-Montes e Alto Douro
5000-911 Vila Real
Portugal
E-mail: pvasco@utad.pt