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**Title:** Symmetric proportionally modular Diophantine inequalities

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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.

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