

A new arithmetical function and a new height function

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Abstract. For a positive integer n , define $g(n)$ to be the smallest integer g such that there exist divisors d_1, d_2, d_3 of n , not all equal, and non-zero integers r_1, r_2, r_3 of modulus at most g such that $r_1d_1 + r_2d_2 + r_3d_3 = 0$. I describe some properties of this function. Its origin lies in the analysis of the solutions of a pair of Diophantine equations. These diophantine equations in turn come from the computation of the values of a new height function defined on algebraic numbers. This is joint work with A. Dubickas.

