

On the packing chromatic number of some lattices

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Abstract.

For a positive integer k , a k -packing in a graph G is a subset A of vertices such that the distance between any two distinct vertices from A is more than k . The packing chromatic number of G is the smallest integer m such that the vertex set of G can be partitioned as V_1, V_2, \dots, V_m where V_i is an i -packing for each i .

It is proved that the planar triangular lattice T and the 3-dimensional integer lattice \mathbf{Z}^3 do not have finite packing chromatic numbers.