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aBa Mbirika* (mbirika@uwec.edu). *Finding square patches of invisible lattice points using quasiprime matrices.*

It is well known that approximately 40 percent of the integer lattice is hidden from view from the origin. Many have studied a variety of problems involving lattice point visibility, in particular, searching for patterns in this 40 percent of invisible points. One such pattern is a square patch, which we call a hidden forest. It is known that there exists arbitrarily large hidden forests in the integer lattice. However, the methods up to now have only been able to locate hidden forests very far from the origin using the Chinese Remainder Theorem (CRT) on the rows and columns of prime matrices. We introduce the concept of quasiprime matrices and utilize a variety of computational and theoretical techniques to find much closer hidden forests than have been found up to now. We conjecture that every hidden forest can be found via a quasiprime matrix and the CRT-algorithm. (Received August 20, 2014)