

1056-37-137

Mohammad Javaheri* (mohammad.javaheri@trincoll.edu), 300 Summit St, Department of Mathematics, Trinity College, Hartford, CT 06106. *Semigroups of matrices with dense orbits*. Preliminary report.

We prove that for any $n \geq 1$ there exist $n \times n$ matrices A and B such that for any vector $x \in \mathbb{R}^n$ with a nonzero first component, the orbit of x under the action of the semigroup generated by A and B is dense in \mathbb{R}^n . As a corollary, we prove that for a large set of diagonal matrices A and B and any vector V with nonzero entries, the orbit of any vector under the semigroup generated by the affine maps $x \rightarrow Ax + V$ and $x \rightarrow Bx$ is dense in \mathbb{R}^n . (Received July 30, 2009)