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We consider left permutative cellular automata Φ with no memory and positive anticipation, defined on all doubly infinite sequences with entries from a finite alphabet. For some of these automata, including all those defined on 2-letter alphabets which are “linear in the first variable,” there is a dense set of points x such that Φ restricted to $\overline{\{\Phi^i(x) : i \geq 0\}}$ is topologically conjugate to the n -adic odometer ($n =$ size of alphabet), the “+1” map on the n -adic integers. For the rest of these automata, there is a dense set of points x such that Φ restricted to $\overline{\{\Phi^i(x) : i \geq 0\}}$ is topologically conjugate to a generalized odometer, the “+1” map on some profinite group.

For each fixed point z of Φ , the set of points $x \in \{y.z : y \text{ arbitrary}\}$, where the dot lies between places 0 and 1, such that Φ restricted to $\overline{\{\Phi^i(x) : i \geq 0\}}$ is topologically conjugate to an odometer or a generalized odometer is a dense G_δ subset of $\{y.z : y \text{ arbitrary}\}$ equal to the set of points with infinite Φ -orbits. (Received August 01, 2005)