Malyshev, F. M.
The complexity of initial state recovery for a class of filter generators. (Russian. English summary) \[Zbl 1475.94040\]

Summary: A recovery problem for the initial state of the $m$-th order recurrent sequence from the output values of filter function $F$. Under natural conditions on the feedback function $f$ and filter function $F$ the complexity of initial state recovery from linear (in $m$) number of output values is shown to be linear in $m$. Coefficients of these linear functions are defined by the cardinalities of alphabet of output values, alphabet of input sequence elements and numbers of essential arguments of functions $f$ and $F$.

MSC:
94A12 Signal theory (characterization, reconstruction, filtering, etc.)
11B37 Recurrences

Keywords:
recurrent sequence; filter generator; pseudo-random sequence

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References:

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