

- PHILIPP SCHLICHT, FRANK STEPHAN, *Alpha-automatic ordinals and linear orders*.

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We investigate structures recognizable by α -automata with running time a limit ordinal α . The domain of such a structure consists of finite α -words with gaps. An α -automaton resembles a finite automaton but has a limit rule which maps the set of states which appear cofinally often before the limit to a limit state. We determine the supremum of the α -automatic ordinals and the ranks of α -automatic linear orders. The power of α -automata increases with every power of ω .