

The Nilpotence Growth Theorem, and applications to mod- p Hecke algebras

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I will discuss a theorem about the annihilating behavior of certain operators defined by linear recurrences on the polynomial algebra $F_p[y]$. These so-called recursion operators mimic the properties of Hecke operators acting on spaces of modular forms, and this theorem has applications to obtaining lower bounds on dimensions of big mod- p Hecke algebras. It is my hope that the Nilpotence Growth Theorem can be refined and generalized using the theory of p -automata.

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