On an infinitary extension of the Graham-Rothschild Parameter Sets Theorem

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Résumé

The Hales-Jewett Theorem states that given any finite colouring of the free semigroup S generated by a finite alphabet A, there is a variable word over A all of whose instances are the same colour. We will discuss various extensions and ramifications of the Hales-Jewett Theorem including the Graham-Rothschild Parameter Sets Theorem. We present new simple algebraic proofs of these results which rely on the algebraic structure of the Stone-Čech compactification of the discrete semigroup S. This is based on joint ongoing work with Neil Hindman and Dona Strauss.

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