2006:8
Självständigt arbete i matematik
Matematiska institutionen
Stockholms universitet

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Sammanfattning

In this paper I introduce a permutation statistic, the Parikh matrix statistic, which counts the number of permutations with a given Parikh matrix and prove this is equidistributed with the descent statistic, when we consider permutations in S_n. First I will introduce a generalization of the classical Parikh vector and show a matrix completeness for Parikh matrices of words in S_n. When we consider S_n, this Parikh matrix completeness implies that the Parikh matrix statistic is equivalent to what can be defined as a Parikh vector statistic of order 2. In order to prove the equidistribution between the Parikh matrix statistic and the descent set statistic I make use of results from R.P. Stanley on descent set statistics. I define analogous inclusive and exclusive Parikh vector statistics. The desired result follows from the Principle of Inclusion-Exclusion.