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Séminaire Lotharingien de Combinatoire, B21h (1989).
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Christophe Reutenauer

Number of Permutations with Given Descent Set and Cycle Structure

Abstract. The purpose of this paper is to count permutations in S_n with a given cycle structure and a given descent set. Our main result asserts that the number of these permutations can be expressed as a scalar product of two symmetric functions, one associated with the cycle structure and the other with the descent set. Both of these symmetric functions can be interpreted as characteristics of certain representations of the symmetric group.

The paper has been finally published as a joint paper with Ira Gessel under the title "Counting permutations with given cycle structure and descent set" in *J. Combin. Theory Ser. A* **64** (1993), 189-215.

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