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Chen, William Y.C.; Rota, Gian-Carlo

q -analogs of the inclusion-exclusion principle and permutations with restricted position. (English)

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We derive a q -analog of the principle of inclusion-exclusion, and use it to derive a q -analog of the Kaplansky-Riordan theory of permutations with restricted position. Some analogies with the theory of Mahonian statistics are pointed out at the end, leading to a conjectured relationship between the two.

Keywords : principle of inclusion-exclusion; Kaplansky-Riordan theory; permutations with restricted position; Mahonian statistics

Classification :

- *05A30 q -calculus and related topics
- 05A05 Combinatorial choice problems
- 05A15 Combinatorial enumeration problems
- 05A19 Combinatorial identities
- 15A03 Vector spaces

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