Arutyunyan, L. M.
On the growth of the number of determinants with restricted entries. (English. Russian original) [Zbl 1471.11024] Math. Notes 109, No. 6, 843-848 (2021); translation from Mat. Zametki 109, No. 6, 803-809 (2021).

This paper is mainly expository and its content is well described in the title. The non degenerate inner product induced by the determinant map on the space of real sized two symmetric matrices (notation: Sym(2)), is considered. This inner product is treated with complex numbers, using the Hopf invariant map of Sym(2), and this approach yields a Heisenberg product on the space. In the last section, new perspectives concerning the Nomizu-Pinkall inner product are also presented.

Reviewer: Natalia Bebiano (Coimbra)

MSC:
11B30 Arithmetic combinatorics; higher degree uniformity
11B75 Other combinatorial number theory
15A15 Determinants, permanents, traces, other special matrix functions
15B33 Matrices over special rings (quaternions, finite fields, etc.)

Keywords:
sum-product phenomenon; determinants

Full Text: DOI arXiv

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