Extreme diagonally and antidiagonally symmetric alternating sign matrices of odd order

ILSE FISCHER

(in collaboration with Arvind Ayyer and Roger Behrend)

Fakultät für Mathematik, Universität Wien, Wien, Austria

For each $\alpha \in \{0, 1, -1\}$, we count alternating sign matrices of fixed odd order that are invariant under the reflections in the diagonal and in the antidiagonal (DASASMs) and that have a maximal number of α's along the diagonal and the antidiagonal, as well as DASASMs with a minimal number of α's along the diagonal and the antidiagonal if $\alpha = 0$. In these enumerations, we encounter round numbers that have previously appeared in plane partition or ASM counting, namely the number of all ASMs, the number of cyclically symmetric plane partitions in a given box, and the number of vertically and horizontally symmetric ASMs.