On Signed Magic Rectangles

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Abstract

A *signed magic rectangle* $SMR(m, n; k, s)$ is an $m \times n$ array with entries from X, where $X = \{0, \pm 1, \pm 2, \ldots, \pm(mk-1)/2\}$ if mk is odd and $X = \{\pm 1, \pm 2, \ldots, \pm mk/2\}$ if mk is even, such that

- precisely k cells in every row and s cells in every column are filled,
- every integer from set X appears exactly once in the array, and
- the sum of each row and of each column is zero.

In this seminar we first present a brief history of signed magic rectangles. Then the results obtained on the existence of an $SMR(m, n; k, s)$ are presented.

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