1146-05-306 Abdollah Khodkar* (akhodkar@westga.edu). Signed magic rectangles.

A signed magic rectangle SMR(m, n; r, s) is an $m \times n$ array with entries from X, where $X = \{0, \pm 1, \pm 2, \ldots, \pm (ms-1)/2\}$ if mr is odd and $X = \{\pm 1, \pm 2, \ldots, \pm mr/2\}$ if mr is even, such that precisely r 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 presentation we review the results obtained on the existence of a signed magic rectangle. (Received January 28, 2019)