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**Nearly magic rectangles.** (English) [Zbl 1428.05041](#)

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**Summary:** Magic squares have been extremely useful and popular in combinatorics and statistics. One generalization of magic squares is magic rectangles which are useful for designing experiments in statistics. A necessary and sufficient condition for the existence of magic rectangles restricts the number of rows and columns to be either both odd or both even. In this paper, we generalize magic rectangles to even by odd nearly magic rectangles. We also prove necessary and sufficient conditions for the existence of a nearly magic rectangle, and construct one for each parameter set for which they exist.

**MSC:**

**05B15** Orthogonal arrays, Latin squares, Room squares

**Keywords:**

magic rectangle; magic square; row-column design

**Full Text:** [DOI](#)