

**STUDY OF THE RANGE OF SUMS
OF A VECTOR SERIES BY MULTIPLYING
THE REARRANGEMENTS
OF A SERIES BY REAL NUMBERS**

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In this article we consider a new notion connected with the problem of the range of sums of a series in an infinite-dimensional space, multiplication of a rearrangement of a series by a real number. We distinguish some set of rearrangements that admit multiplication by integers. If the sum of a series disturbs after applying one of these rearrangements then the range of sums is unbounded and we can indicate some elements in it. For some subset of rearrangements in this set we prove the impossibility of multiplying a rearrangement by nonintegral numbers.

Key words and phrases: vector series, rearrangement of a series, multiplication of a rearrangement by a number, range of sums of a series.

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