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A SET IN THE PLANE WITH PECULIAR MEASURE-THEORETIC PROPERTIES CONSTRUCTED BY VITUŠKIN, IVANOV AND MELNIKOV

In 1963 Vituškin, Ivanov, and Melnikov [1] constructed a compact set in the plane with positive linear measure which cannot be mapped using a contraction onto a segment. Their paper is very concise and obscure. The question of the existence of such a set arose again recently. In this short talk I wish to sketch this construction and the proof, as well as discuss related problems which make the existence of such a set important.

References

[1] A. G. Vituškin, L. D. Ivanov, and M. S. Melnikov, *Incommensurability of minimal linear measure and the length of a set* (in Russian), Doklady Akad. **156** (1963), 1256-1259. (English translation: Soviet Mathematics **4** (1963), 1160-1164.)