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Corrigenda to our paper "Further remarks on Steinhaus sets" Publ. Math. Debrecen 57 (2000), no. 3–4, 277–281

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This is to point out some corrections.

Let S be a Steinhaus set. Assume that S contains a simple Jordan curve, that is, a homeomorphic image, say T, of the unit circle. If possible, let the diameter of T be greater than or equal to 1. Here, by diameter of T, we mean the supremum of $d(X,Y)$, taken over all $X,Y \in T$ where d is the usual distance function on the plane. Now, since the distance function is continuous, by intermediate value theorem, we can find two points say X_1 and X_2 on T such that $d(X_1,X_2) = 1$. Therefore, with the notations as in the original paper, there exists $\theta \in [0,2\pi)$ and $(x,y) \in \mathbb{Z}^2$ such that $S(\theta) + (x,y)$ has two integer lattice points in it. This leads to a contradiction to the assumption that S is a Steinhaus set. Thus diameter of T of a Steinhaus set is less than 1.

Lemma 2.2 (and hence Theorem 1.3) in the above mentioned paper of Adhikari, Balasubramanian and Thangadurai is valid with the assumption that the diameter of the homeomorphic image T of the unit circle is less than 1. More precisely, the assumption on the diameter will ensure that when it is placed so as to have a circle $C(O,r)$ with centre at the origin in its interior, it will not have any lattice point other than the origin in its interior and it can be observed that points in any annulus concerned will be outside T. This is required for the proof of Lemma 2.2 to go through.

Combining the first observation with the above result, it is clear that no Steinhaus set contains any homeomorphic image of the unit circle.

In other words, the statement in Theorem 1.3 of the above mentioned paper is true unconditionally.

While writing the above paper, the authors forgot to distinguish the two cases.

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