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SEMIGROUPS OF POLYGONS WHOSE VERTICES DEFINE A CENTERED PARTITION OF $\mathbb{R}^n$

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A partition $\mathfrak{F}$ of a Euclidean space into finite subsets has subgroup property SP if the family of the convex hulls of the leaves of $\mathfrak{F}$ constitutes a subgroup with respect to the Minkowski addition. If $\mathfrak{F}$ consists of orbits of a finite linear groups then SP is equivalent to the fact that the group is a Coxeter group. In this article, this assertion is proved only under the assumption of continuity and centrality of $\mathfrak{F}$ (this means that every leaf is inscribed in some sphere centered at zero). An example is given of a noncentered partition satisfying SP (such partitions cannot be Coxeter partitions).

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