GEOMETRY ASSOCIATED WITH THE GENERALIZATION OF CONVEXITY

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ABSTRACT

In this paper we have discussed the generalization of convexity in a space and noted some interesting geometry arising from it. The underlying space is $\mathbb{R}^d$, d >1, is a d- dimensional Euclidean space. Convexity of a set of points in $\mathbb{R}^d$ is introduced and an operator on such sets namely the convex hull is also defined. Under this operator convexhull, we formulate some propositions. Since, convexity is intimately related to the connectedness of the space , generalizations to lines and planes brings to fore some topological restrictions. The study gains importance due to the global nature of the problem. Richard Polleck, Raphael Wenger and others investigated this problem, we refer to [1][2][3] [4] Jacob E. Goodman extends this study owing to its relationship with the discrete geometric nature of the set[1]. Section 2 has some basic concepts from geometry and analysis. Section 3 deals with propositions and scope of the problem.

KEYWORDS: Geometry, Convexity, Dimensional Euclidean Space