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by

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SYMMETRICALLY AND ANTISYMMETRICALLY-DENSE SUBSPACES OF T_0-QUASI-METRIC SPACES

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Abstract. The aim of this study is to determine some new types of density specific to T_0-quasi-metric subspaces in the asymmetric environment due to the apparent inadequacy of topological density in the transfer of properties symmetric and antisymmetric connectedness to the subspaces or superspaces. By taking into consideration the deficiencies of topological density in the relevant theories, the authors introduced and observed the two special kinds of density in the context of non-metric T_0-quasi-metrics under the names *symmetric density* and *antisymmetric density*.

In this context, some asymmetric properties of these types of density, as well as their various characterizations and relations with the topological density are investigated by presenting many crucial results, (counter)examples and metric approaches. More specifically, we address the following questions: under which conditions does a T_0-quasi-metric space become symmetrically or antisymmetrically connected whenever it has a symmetrically or antisymmetrically connected subspace, respectively? Hence, our primary interest is to determine the corresponding responses to these questions.

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Key words and phrases. symmetrization metric, antisymmetrically connected, complementary graph, symmetry component, T_0-quasi-metric, symmetrically-dense, antisymmetric pair, symmetric path.

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