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# STATISTICAL CONVERGENCE OF BIVARIATE FUNCTIONS WITH RESPECT TO A FØLNER SEQUENCE

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*Abstract.* This study extends the notion of statistical convergence and its related concepts to bivariate functions defined on discrete countable amenable semigroups. We demonstrate that the space of bounded bivariate functions, $m(H \times H)$, forms a Banach space under the supremum norm, establishing a fundamental framework for our analysis. The paper rigorously investigates two-dimensional Følner sequences, statistical convergence, strong $p$-summability, and statistical Cauchy functions. Additionally, we characterize statistical limit and cluster points, proving the equivalence between statistical convergence and the statistical Cauchy property. Through illustrative examples, we emphasize the significance of nonthin subsets in the study of statistical limit and cluster points, thereby enriching the understanding of summability and convergence within amenable semigroups.

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