
Several degrees of lineability in topological vector spaces

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Finding large vector spaces within nonlinear sets has become a trend in recent years. In particular, a number of remarkable nonlinear families of very special functions enjoy that property. According Gurariy, a subset A of a vector space X is called *lineable* whenever there is a vector space M with $\dim(M) = \infty$ such that $M \subset A \cup \{0\}$. From this, several stronger properties, as for instance *dense-lineability*, *spaceability* and *algebrability*, have been coined and studied by several mathematicians. The purpose of this talk is to present a number of criteria for the diverse degrees of lineability, and then to use them to provide examples in topological vector spaces, mainly in function spaces.