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Homogeneous Distributions on Finite Dimensional Vector Spaces

Let V be a finite dimensional vector space over a local field F . Let $\chi: F^\times \rightarrow \mathbb{C}^\times$ be an arbitrary character of F^\times . We determine the structure of the natural representation of $\mathrm{GL}(V)$ on the space $\mathcal{S}^*(V)^\chi$ of χ -invariant distributions on V .

Keywords: Representation, Schwartz function, tempered distribution, degenerate principal series.

MSC: 22E50