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On the Eberlein compactification of a topological group

The set $B(G)$ of all matrix coefficients associated to continuous unitary representations of a given topological group G is a $*$ -closed, subalgebra of the C^* -algebra $\ell_\infty(G)$ of all bounded functions on G . We will refer to the spectrum of the closure (in $\ell_\infty(G)$) of this subalgebra as the *Eberlein compactification* eG of G .

Multiplication on G can be extended in the standard way to the Eberlein compactification and eG is thus made into a semitopological semigroup. eG is therefore a semigroup compactification of G placed between the almost periodic and weakly almost periodic compactifications. In this talk we will overview some of the features of the Eberlein compactification eG that concern its size, complexity, algebraic structure or the way G fits in it.