1049-43-132 **Nico Spronk** (`nspronk@math.uwaterloo.ca`), Department of Pure Mathematics, University of Waterloo, Waterloo, ON N2L 3G1, Canada, and **Ross Stokke*** (`r.stokke@uwinnipeg.ca`), Department of Mathematics and Statistics, University of Winnipeg, 515 Portage Avenue, Winnipeg, MB R3B 2E9, Canada. *Unitary representations and the Eberlein compactification of a locally compact group.*

We study the extension of unitary representations on a locally compact group, G, to the involutive dual Banach algebra $E(G)^*$, where $E(G)$ denotes the uniform closure of the Fourier-Stieltjes algebra, $B(G)$, of G. The spectrum, εG, of $E(G)$ is a semitopological $*$-semigroup compactification of G, which we call the Eberlein compactification of G. We characterize εG as the minimum semigroup compactification of G to which every unitary representation can be continuously extended, and we describe εG in a manner which is analogous to M. Walter's description of the spectrum of $B(G)$. This latter result is applied to show that G is completely determined by εG. (Received March 01, 2009)