1107-28-29 **Cagin Ararat*** (cararat@princeton.edu), Charlton Street, Sherrerd Hall, Princeton, NJ 08544, and **Birgit Rudloff**, Charlton Street, Sherrerd Hall, Princeton, NJ 08544. *A Daniell-Stone characterization for Aumann integrals.*

The Aumann integral of a measurable set-valued function is defined as the set of all (Bochner) integrals of its integrable selections. In this work, a special structure is assumed for the values of set-valued functions: these values are upper sets, that is, they are invariant under the addition of a fixed ordering cone. Upper set-valued functions appear in some recent developments in set optimization and financial mathematics. The main result is a Daniell-Stone type characterization theorem for Aumann integrals of upper set-valued functions. More precisely, the result characterizes the conditions under which a functional that maps from a certain collection of measurable functions into the set of all closed convex upper sets can be written as the Aumann integral with respect to a measure. While the set-valued analogues of the linearity and monotone convergence properties of the classical Lebesgue integral are among these conditions, the remaining properties are of geometric nature and peculiar to the set-valued framework. (Received November 19, 2014)