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Amanda K. Sutherland* (aksuther@ncsu.edu). *Generalizations of the Cartan and Iwasawa Decompositions for $SL(2, k)$.*

The Cartan and Iwasawa decompositions of real reductive Lie groups play a fundamental role in the representation theory of the groups and their corresponding symmetric spaces. These decompositions are defined by an involution with a compact fixed-point group, called a Cartan involution. For an arbitrary involution, one can consider similar decompositions. We offer a generalization of the Cartan and Iwasawa decompositions for $SL(2, k)$ defined over an arbitrary field k and a general involution. (Received August 27, 2014)