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Mark C Hunnell* (mchunne2@ncsu.edu). *Generalized Complexification of the Orbits of Parabolic k -subgroups Acting on Symmetric k -Varieties*. Preliminary report.

Symmetric k -varieties are a generalization of real reductive symmetric spaces occurring in many areas of mathematics including number theory, geometry, and combinatorics. Parabolic k -subgroups act on these k -varieties and these orbits are fundamental to representation theory. To characterize these orbits one can first consider the orbit decomposition over an algebraically closed field and then determine how these orbits split in to k -orbits. One can reverse this process by extending k -orbits to orbits over the algebraic closure, a process we call generalized complexification. Generalized complexification does not always yield all of the orbits over the algebraic closure of the base field k . We give a condition to determine when this map is surjective. (Received September 10, 2014)