

1108-20-436

Catherine A. Buell* (cbuell11@fitchburgstate.edu). *On maximal quasi \mathbb{R} -split tori invariant under an involution.*

Symmetric k -varieties have been a topic of interest since the late 1980's. For any field k , a reductive group G defined over k and any k -involution of G , we define a symmetric k -variety as the homogeneous space G_k/H_k where H is the fixed point group of the k -involution and G_k and H_k are the k -rational points of G and H , respectively. These symmetric k -varieties are also known as generalized symmetric spaces and for $k = \mathbb{R}$ or $k = \mathbb{Q}_p$ they are also known as reductive symmetric spaces. The conjugacy classes of maximal k -split tori can be used to determine the orbit decomposition of minimal parabolic subgroups acting on a symmetric k -variety which is important to the representation theory of symmetric varieties. Commuting pairs and associated pairs of involutions classify the tori within the fixed point groups of the involutions. I'll discuss various characterizations for any k . For $k = \mathbb{R}$, I'll provide a classification of the representatives of maximal quasi \mathbb{R} -split tori. (Received January 19, 2015)