Wedhorn, Torsten
Bruhat strata and $F$-zips with additional structure. (English) [Zbl 1375.14083]

Summary: We study the Bruhat decomposition of not necessarily connected reductive quasi-split groups $G$ with respect to not necessarily connected parabolic subgroups. If $G$ is defined over a finite field, we construct a smooth morphism from the stack classifying $F$-zips with $G$-structure to the stack classifying the generalized Bruhat cells and study the relation between the resulting stratifications. We apply these general results to the twisted orthogonal $F$-zip given by the second De Rham cohomology of a relative surface, focusing on $K3$-surfaces.

MSC:

14F40 de Rham cohomology and algebraic geometry
14G15 Finite ground fields in algebraic geometry
14J28 $K3$ surfaces and Enriques surfaces
20G07 Structure theory for linear algebraic groups
20G40 Linear algebraic groups over finite fields

Full Text: DOI arXiv