
SARA ROTTEY, Vrije Universiteit Brussel

The automorphism group of linear representations

We discuss the automorphism group of linear representations of projective point sets. A linear representation $T_n^*(K)$ of a point set K is a point-line geometry embedded in $PG(n+1, q)$. The common misconception was that for $T_n^*(K)$ every automorphism is induced by a collineation of its ambient space. This is not true in general. We prove that every automorphism is induced by an automorphism of $T_n^*(S)$, where S is the smallest subgeometry containing K . By use of field reduction, we uncover the full automorphism group of $T_n^*(S)$. This is joint work with Stefaan De Winter and Geertrui Van de Voorde.