

RECENT RESULTS IN CHAIN GEOMETRY

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We report on joint work with ANDREA BLUNCK.

A *chain geometry* $\Sigma(K, R)$ is based upon the projective line over a ring R and a (skew-)field $K \subset R$. We discuss the following topics:

Basic properties and residues, i.e. “local” affine models [Extending the concept of chain geometry, *Geom. Dedicata* **83** (2000), 119–130], [Affine spaces within projective spaces. *Res. Math.* **36** (1999), 237–251], [The dual of a chain geometry. *J. Geom.*, in print].

Connectedness of the distant graph [The connected components of the projective line over a ring. *Adv. Geom.* **1** (2001), 107–117].

Representations in Grassmannians [Projective representations I. Projective lines over rings. *Abh. Math. Sem. Univ. Hamburg* **70** (2000), 287–299], [Projective representations II. Generalized chain geometries. *Abh. Math. Sem. Univ. Hamburg* **70** (2000), 300–313].