



Leibniz
Universität
Hannover

Oberseminar
Institut für Algebraische Geometrie

Fumiaki Suzuki

(Leibniz Universität Hannover)

**Linear spaces on the base loci of pencils of
quadrics and rationality of their hyperbolic
reductions**

Over an arbitrary field of odd characteristic, let X be a smooth complete intersection of two quadrics in P^N and Q^r be the hyperbolic reduction of the associated pencil of quadrics with respect to an r -plane on X . By showing that the Fano scheme of r -planes on X is birational to the $(r+1)$ -th symmetric power of Q^r , we deduce that the existence of an $(r+1)$ -plane on X implies rationality of the Fano scheme of r -planes on X . As a partial converse in the case of maximal linear spaces, we show that when $N=2g+1$ for every g at least 2 the existence of a $(g-1)$ -plane on X may be characterized by rationality of Q^{g-2} , generalizing the $g = 2$ case due to Hassett—Tschinkel and Benoist—Wittenberg. This is joint work with Lena Ji.

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Alle Interessierten sind herzlich eingeladen.