

Transitive projective planes and components

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In 1959 Ostrom and Wagner proved that a finite projective plane which admits a group that is 2-transitive on points must be Desarguesian. They also conjectured that the same conclusion would hold were the words "2-transitive" to be replaced by "transitive".

Fifty years later we have the Classification of Finite Simple Groups at our disposal and substantial progress can finally be made on this conjecture. We outline recent results about the structure of a collineation group which acts transitively upon a non-Desarguesian projective plane.