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Helly dimension of algebraic groups

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The Helly dimension of a group is a purely group theoretic invariant (the name is motivated by the loose analogy with a well known theorem in convex geometry). Its version for algebraic groups is defined in terms of Zariski closed cosets. This quantity comes up naturally in the study of actions on product varieties. We prove that the Helly dimension of an algebraic group is finite, and give some invariant theoretic applications. The talk is based on joint work with Endre Szabó.