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The topology of polynomial varieties. (English) [Zbl 0970.14009](#)

Cossey, John (ed.) et al., Geometric group theory down under. Proceedings of a special year in geometric group theory, Canberra, Australia, July 14-19, 1996. Berlin: de Gruyter. 1-8 (1999).

Summary: We show that the affine Cremona group $\mathcal{C}(n)$ has the homotopy type of the general linear group $GL_n(\mathbb{C})$ and that two closed related spaces, the group of elementary transformations and the space of polynomial transformations with non-zero jacobian, have the same homotopy type; we introduce the polynomial varieties as spaces of polynomial solutions of algebraic equations and show that they have the homotopy type of a finite CW-complex.

For the entire collection see [\[Zbl 0910.00040\]](#).

MSC:

- [14E07](#) Birational automorphisms, Cremona group and generalizations
- [14F35](#) Homotopy theory and fundamental groups in algebraic geometry
- [14J50](#) Automorphisms of surfaces and higher-dimensional varieties
- [20G15](#) Linear algebraic groups over arbitrary fields

Keywords:

polynomial equations; affine Cremona group; homotopy type; general linear group; polynomial transformations; polynomial varieties