

[Helmke, Uwe](#)

The topology of a moduli space for linear dynamical systems. (English) Zbl 0613.93008
Comment. Math. Helv. 60, 630-655 (1985).

The author studies the quotient space obtained by acting on the set of all linear systems without outputs, of a fixed dimension and number of controls, by change of basis in the state-space. In particular, he establishes that the mod 2 Betti numbers of these spaces coincide with those of certain Grassmannians. Some results had been obtained earlier for systems over the complex numbers; here the treatment applies over the reals. The paper is very well-written and provides an excellent introduction to the area.

Reviewer: [E.Sontag](#)

MSC:

[93B10](#) Canonical structure
[54H20](#) Topological dynamics (MSC2010)
[93C05](#) Linear systems in control theory
[14J10](#) Families, moduli, classification: algebraic theory
[93B05](#) Controllability
[93B20](#) Minimal systems representations
[93B25](#) Algebraic methods

Cited in **13** Documents

Keywords:

[moduli spaces of linear control systems](#)

Full Text: [DOI](#) [EuDML](#)