

# MONODROMY OF PROJECTIVE CURVES

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ABSTRACT. The uniform position principle states that, given an irreducible nondegenerate curve  $C \subset \mathbb{P}^r(\mathbb{C})$ , a general  $(r-2)$ -plane  $L \subset \mathbb{P}^r$  is *uniform*, that is, projection from  $L$  induces a rational map  $C \dashrightarrow \mathbb{P}^1$  whose monodromy group is the full symmetric group. In this paper we first show the locus of non-uniform  $(r-2)$ -planes has codimension at least two in the Grassmannian. This result is sharp because, if there is a point  $x \in \mathbb{P}^r$  such that projection from  $x$  induces a map  $C \dashrightarrow \mathbb{P}^{r-1}$  that is not birational onto its image, then the Schubert cycle  $\sigma(x)$  of  $(r-2)$ -planes through  $x$  is contained in the locus of non-uniform subspaces. For a smooth curve  $C$  in  $\mathbb{P}^3$ , we show any irreducible surface of non-uniform lines is a Schubert cycle  $\sigma(x)$  as above, unless  $C$  is a rational curve of degree three, four or six.