1145-14-332 **Borys Kadets*** (`bkadets@mit.edu`). *Sectional monodromy groups of projective curves and Galois groups of generic trinomials.*

Fix a degree d projective curve $X \subset \mathbb{P}^r$ over a field K. The talk is concerned with the Galois group G_X of the field extension defined by the intersection of X with the hyperplane $x_0 + t_1 x_1 + ... + t_r x_r = 0$ over $K(t_1, ..., t_r)$. It is well-known that G_X is related to the Hilbert polynomial of X. When K has characteristic zero $G_X = S_d$. The failure of the equality $S_d = G_X$ in characteristic p forces some classical results to have a characteristic zero assumption, e.g. Harris' extension of Castelnuovo's inequality. Even in the special case of the plane curve $x^n = y^m$, when G_X is the Galois group of the trinomial $x^n + ax^m + b$ over $K(a, b)$, determining the possibilities for G_X is an open problem. As an unusual example, the Galois group of $x^{23} + ax^3 + b$ over $\mathbb{F}_2(a, b)$ is the Mathieu group M_{23}. We study the group G_X for curves over fields of positive characteristic. When $r \geq 3$ we can list all nonstrange nondegenerate projective curves with $A_d \not\subset G_X$. All of them turn out to be smooth and rational. We also classify the Galois groups of generic trinomials, the possible groups are $AGL_1(\mathbb{F}_{p^d}), PGL_d(\mathbb{F}_{p^k}), PSL_2(\mathbb{F}_5), M_{11}, M_{23}, M_{24}, A_n$ and S_n. (Received September 01, 2018)