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Solutions of the Hurwitz-Markoff equation over polynomial rings

Let A and n be positive integers. The structure of the set of integral solutions of the equation

$$x_1^2 + \cdots + x_n^2 = Ax_1 \cdots x_n \tag{1}$$

was first studied by Hurwitz, as a generalization of Markoff's equation (the case $n = A = 3$). Hurwitz showed that all integral solutions can be generated by the action of certain automorphisms of the hypersurface defined by (1) on finitely many solutions. Ever since, several authors have extended Hurwitz's work to the study of solutions of (1) over finite fields and number fields. Our goal is to discuss some progress made in understanding the solutions of (1) over the polynomial ring $k[t]$, where k is a field.