

ON ONE SPECIAL FAMILY OF CUBIC DYNAMIC SYSTEMS

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A broad special family of cubic dynamic differential systems is considered on a real (arithmetic) plane of its phase variables [1, 2]. The equations of such systems contain polynomial right parts - a cubic polynomial for the first equation and a square polynomial for the second equation. These polynomials are considered to be the reciprocal ones, that means their decompositions into lower degree forms do not contain common multipliers.

The whole family of dynamic systems has been split into subfamilies belong to different levels due to a quantity of different multipliers in their particular decompositions.

Finally we indicate qualitative as well as quantitative results of this study and construct all possible for all systems under consideration topologically different phase portraits in a Poincare circle [3, 4]. New methods of investigation especially developed for this study have been outlined and presented [5].

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