

Detection of Special Curves Via the Double Resultant

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Abstract We introduce several applications of the use of the double resultant through some examples of computation of different nature: special level sets of rational first integrals for rational discrete dynamical systems; remarkable values of rational first integrals of polynomial vector fields; bifurcation values in phase portraits of polynomial vector fields; and the different topologies of the offset of curves.

Keywords Resultant · Remarkable curves · Integrability · Offset of curves

Mathematics Subject Classification 34C05 · 34A34 · 34C14 · 14P25 · 14Q05 · 68U01

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