Algebraic geometry


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Since publishing [2], I have learned that the main result (Theorem 2.1) of that paper has appeared multiple times in the literature, with different proofs.

The result is Theorem 5 of [1]; additionally, Bogatyrev’s paper gives a very explicit geometric description of the moduli space of real hyperelliptic curves and the solutions to Abel’s equations.

The result is also proved as Theorem 2.1 of [4], with an application to bounding derivatives of polynomials.

Bogatyrev and Totik give independent proofs that the Jacobian of Lemma 4.1 of [2] is surjective at every point of the moduli space. This is stronger than the result of [2], where it is merely shown that the Jacobian is generically surjective.

Additionally, the result appears as the main result of [3], in the following form: any finite union $E$ of real disjoint intervals can be approximated by a set of the form $E' = T^{-1}([-1, 1])$, with $T$ a polynomial. The set $E'$ is obtained constructively by continuous deformation of a minimal polynomial.

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References


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