Orevkov, S. Yu.

A new affine M-sextic. (English. Russian original) Zbl 0932.14035

Funct. Anal. Appl. 32, No. 2, 141-143 (1998); translation from Funkts. Anal. Prilozh. 32, No. 2, 91-94 (1998).

From the paper: By an affine M-curve we mean an affine real algebraic curve C with the maximum possible number of connected components $(m^2 - m + 2)/2$, where m is the degree of C.

A. B. Korchagin and *E. I. Shustin* [Math. USSR, Izv. 33, No. 3, 501-520 (1989); translation from Izv. Akad. Nauk SSSR, Ser. Mat. 52, No. 6, 1181-1199 (1988; Zbl 0679.14011)] constructed 33 isotopy types of affine M-curves of degree 6. Other constructions (given in more detail) of these 33 curves are presented by *A. B. Korchagin* [in: Topology of real algebraic varieties and related topics, Transl., Ser. 2, Am. Math. Soc. 173, 141-155 (1996; Zbl 0858.14029)]. Recently, *S. Yu. Orevkov* [Topology 38, No. 4, 779-810 (1999; Zbl 0923.14032)] managed to prohibit all isotopy types except for the mentioned 33 types and the types $A_3(0,5,5)^*$, $A_4(1,4,5)^*$, $B_2(1,8,1)$, $B_2(1,4,5)$, and $C_2(1,3,6)^*$, in the notation of the two first cited papers. The present note is devoted to the construction of a curve that realizes $B_2(1,8,1)$. We construct it by a perturbation of a suitable singular rational curve by using the Shustin lemma on the independent smoothing of singularities.

MSC:

14R05 Classification of affine varieties
14H50 Plane and space curves
14P25 Topology of real algebraic varieties

Keywords:

isotopy types of affine M-curves

Full Text: DOI

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