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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

Cited in **1** Review
Cited in **2** Documents

Keywords:

isotopy types of affine M -curves

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References:

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- [3] E. I. Shustin, In: *Methods of Qualitative Theory and the Theory of Bifurcations* [in Russian], Gorky State Univ., Gorky, 1988, pp. 97–105
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