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A Weierstrass semigroup at a pair of inflection points on a smooth plane curve. (English)

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Let C be a smooth complex projective plane curve of degree $d \geq 4$. The authors use some results about Weierstrass semigroup at a pair of points, due to *S. J. Kim* [Arch. Math. (Basel) 62, No. 1, 73–82 (1994; Zbl 0815.14020)] and *M. Homma* [Arch. Math. (Basel) 67, No. 4, 337–348 (1996; Zbl 0869.14015)], to describe all six possible Weierstrass semigroups at a pair of inflection points on C of multiplicities d or $d - 1$. Moreover, by using a result due to *M. Coppens* and *T. Kato* [Boll. Un. Mat. Ital. B (7), No. 1, 1–33 (1997; Zbl 0910.14013)], they prove that for each one of them there exist such a curve C with a pair of inflection points having such semigroup as their Weierstrass semigroup.

Reviewer: José Gilvan de Oliveira (Vitória)

MSC:

[14H55](#) Riemann surfaces; Weierstrass points; gap sequences

[14H51](#) Special divisors on curves (gonality, Brill-Noether theory)

[14H45](#) Special algebraic curves and curves of low genus

[14G50](#) Applications to coding theory and cryptography of arithmetic geometry

Cited in **3** Documents

Keywords:

Weierstrass semigroup; plane curve, inflection points

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