

**Tzermias, Pavlos**

**The group of automorphisms of the Fermat curve.** (English) Zbl 0853.14015

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Summary: In his paper [cf. “Œuvres scientifiques”, Collected Papers, Vol. III (1964-1978), 329-342 (1979; [Zbl 0424.01029](#))], *A. Weil* asserted (without proof) that the automorphism group of the Fermat hypersurface of exponent  $N$  and dimension  $r - 1$  over an algebraically closed field of characteristic prime to  $N$  is the semidirect product of the symmetric group on  $r + 1$  letters and the direct sum of  $r$  copies of the cyclic group of order  $N$ . It turns out that the assertion is false in positive characteristic. In this paper, we present a proof of Weil’s assertion for the case of the Fermat curves ( $r = 2$ ) in characteristic 0.

**MSC:**

[14H30](#) Coverings of curves, fundamental group

[14E07](#) Birational automorphisms, Cremona group and generalizations

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