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Hidalgo** and **Maximiliano Leyton**. *Generalized Fermat curves*. Preliminary report.

Let C be a complex algebraic curve (= compact Riemann surface) and let $\text{Aut}(C)$ be its full group of automorphisms. We say that C is a generalized Fermat curve of type (k, n) if $\text{Aut}(C)$ contains a subgroup H isomorphic to n copies of the cyclic group $(\mathbb{Z}/k\mathbb{Z})$ so that the quotient C/H is an orbifold of signature $(0; n+1; k, \dots, k)$, that is, C/H is a Riemann surface of genus zero and the natural projection $C \rightarrow C/H$ has $n+1$ branch values, all of same order k . For each integer $k > 2$ there is only one generalized Fermat curve of signature $(k, 2)$, namely the classical Fermat curve of degree k and genus $(k-1)(k-2)/2$. In this paper we determine the Fuchsian groups and the algebraic curves that define generalized Fermat curves of arbitrary type (k, n) . We also describe their moduli and study their automorphism groups. (Received February 22, 2007)