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Ernesto Girondo* (ernesto.girondo@uam.es), Departamento de Matematicas, Universidad Autonoma de Madrid, Campus de Cantoblanco, 28049 Madrid, Spain. *Triangle Fuchsian groups and surfaces with many automorphisms.*

The term *surface with many automorphisms* usually refers to a compact Riemann surface that has more automorphisms than every small deformation of it. From the point of view of uniformization, surfaces of this kind are characterized as being uniformized by normal subgroups of Fuchsian triangle groups. Thus, Belyi-Grothendieck theory shows that surfaces with many automorphisms carry an arithmetic structure (they correspond to an algebraic equation defined over the field of algebraic numbers) which is determined by a *regular dessin d'enfant*, namely a highly symmetric embedded bipartite graph. In this context, surfaces with many automorphisms are also known as *quasiplatonic surfaces*.

Some fundamental problems, like the presence of multiple regular dessins in the same quasiplatonic surface, yield in a natural way to interesting questions about Fuchsian groups. In this talk we will consider such problems, focusing specially on Fuchsian triangle groups, and we will describe some consequences concerning surfaces with many automorphisms. (Received February 23, 2007)