

Generalized Kummer surfaces and a configuration of conics in the plane

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A generalized Kummer surface is the minimal resolution of the quotient of an abelian surface by an automorphism of order three. The quotient surface contains nine cusps and this is a special example of a singular K3 surface. The converse is also true : the minimal resolution of a K3 surface containing nine cusps is a generalized Kummer surface. In this paper we study several configurations of nine cusps on the same K3 surface, which is the double cover of the plane ramified on a sextic with nine cusps. We get the new configurations by studying conics through the singular points of the sextic. The aim of the construction is to investigate the following question: is it possible that the K3 surface is the generalized Kummer surface associated to two non-isomorphic abelian surfaces ? This is a joint work with D. Kohl and X. Roulleau.