1046-14-405 **Milagros Izquierdo*** (`miizq@mai.liu.se`), Matematiska institutionen, Linköpings universitet, 581 83 Linköping, Sweden, and **Antonio F. Costa**. *On the maximal order of an automorphism of a trigonal Riemann surface.*

A closed Riemann surface X which is a 3-sheeted covering of the Riemann sphere $f : X \to \widehat{\mathbb{C}}$ is called trigonal and the covering f is called a trigonal morphism. If f is a cyclic covering, then X is called cyclic trigonal. Otherwise X is called a generic trigonal surface. Let s be a singular value of f. If f is cyclic, then s is an order 3 singular value. If f is non-cyclic, then s is either a singular value of order three or a simple singular value. If all the singular values of f are simple we say that f is a simple covering. Simple coverings play an important role, for instance in the study of the moduli space. It is well known that the maximal order of an automorphism of a Riemann surface of genus g is $4g+2$. We study the maximal order of an automorphism of a trigonal Riemann surface. We find that the order of an automorphism of a cyclic trigonal Riemann surface of genus g, $g \geq 5$, is at most $3g+3$ while the order of an automorphism of a generic trigonal surface of genus g, $g \geq 5$, is at most $2g+1$. Finally the obtain that the order of an automorphism of a trigonal surface with simple morphism is at most $g+1$. We show that the bounds above are sharp for infinite families of curves. (Received September 01, 2008)