

1007-20-139

Ernesto Martinez* (emartinez@mat.uned.es), Departamento de Matematicas Fundamentales, Facultad de Ciencias. UNED, Paseo Senda del Rey 9, 28040 Madrid, Spain, and **Jose Javier Etayo** (jetayo@mat.ucm.es), Departamento de Algebra, Facultad de Matematicas, Universidad Complutense, 28040 Madrid, Spain. *Alternating groups as M^* -groups*. Preliminary report.

Bordered Klein surfaces of algebraic genus $p \geq 2$ admit at most $12(p - 1)$ automorphisms. When this upper bound is achieved, the automorphism group is said to be an M^* -group. The fact of a given group to be an M^* -group can be expressed in terms of the existence of a partial presentation by generators and relations. It is known that alternating groups A_n are M^* -groups for $n \geq 168$. For lower values there exist n such that A_n is an M^* -group and also there exist n such that A_n is not.

We study here the question for $n \leq 24$, giving the adequate generators when A_n is an M^* -group, or proving that there exists no such presentation otherwise. (Received February 17, 2005)