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1003-14-222      **Milagros Izquierdo** (miizq@mai.liu.se), Matematiska Institutionen, Linköpings Universitet, 581 83 Linköping, Sweden, and **Jose Luis Estevez\*** (jestevez@mat.uned.es). *Non-normal pairs of NEC groups.*

By a *NEC (non-euclidean crystallographic) group* we shall mean a discrete, cocompact subgroup  $\Gamma$  of the group  $\text{Aut}(\mathcal{H})$  of all the automorphisms of the non-Euclidean plane  $\mathcal{H}$ . Given an NEC group  $\Gamma$ , we denote by  $\mathbf{T}(\Gamma)$  the *Teichmüller space of  $\Gamma$* , it is homeomorphic to a real ball of dimension  $d(\Gamma)$ . We denote by  $Max(\Gamma)$  the set of points in  $\mathbf{T}(\Gamma)$  which represent maximal groups.  $Max(\Gamma)$  is empty if there exists an NECgroup  $\Gamma'$  such that  $\Gamma \leq \Gamma'$  and  $d(\Gamma) = d(\Gamma')$ . It is very interesting to study those NEC groups with empty  $Max(\Gamma)$  because this fact helps us to determine whether a finite group  $G$  can be the full group of automorphisms of a Klein surface  $\mathcal{H}/\Gamma$  or not. Bujalance established these pairs  $(\Gamma, \Gamma')$  when  $\Gamma$  is normal in  $\Gamma'$ . In this paper we compute the pairs of such groups in the case when  $\Gamma$  is non-normal in  $\Gamma'$ . The corresponding problem for Fuchsian groups was solved by Singerman. (Received August 31, 2004)