# ICM 1998, Berlin, Aug. 18–27

## Abstracts of Short Communications and Posters

**Section:**

## 2. Algebra

1991 MS Classification: 20
Makarenko, Natalia, Institute of Mathematics, Novosibirsk, Russia:
**Finite 2-groups with automorphisms of order four.**
Kovacs's theorem [1] states that the second term of the derived series of a locally finite or locally nilpotent group $G$ with an automorphism of order 4 without non-trivial fixed elements lies in the centre of $G$. It is proved that a finite 2-group $G$ admitting an automorphism of order 4 with exactly $m$ fixed points contains a subgroup $H$ of $m$-bounded index in $G$ such that the second term of the derived series of $H$ lies in the centre of $H$. Earlier in [2] it was proved that under the same conditions $G$ contains a subgroup of $m$-bounded index, whose commutator subgroup is nilpotent of class at most 3.
Reference: 1. L. G. Kovács, Groups with regular automorphisms of order four, *Math. Z.* , **75** (1961), 277-294. 2. N. Yu. Makarenko, Finite 2-groups admitting an automorphism of order 4 with few fixed points, *Algebra and Logic*, **32** (1993), 215-230.