

THE SUBGROUP LATTICE OF $PGL_2(13) \cong L_2(13) : 2$

THOMAS CONNOR AND DIMITRI LEEMANS

| Nr. | Structure | Order | Length | Maximal Subgroups | Minimal Overgroups |
|-----|----------------------|-------|--------|------------------------------------|---|
| 1 | $L_2(13) : 2$ | 2184 | 1 | 2, 3 (14), 7 (78), 9 (91), 10 (91) | |
| 2 | $L_2(13)$ | 1092 | 1 | 4 (14), 11 (78), 15 (91), 16 (91) | 1 |
| 3 | $13 : 3 : 2 \cdot 2$ | 156 | 14 | 4, 5, 17 (13) | 1 |
| 4 | $13 : 3 : 2$ | 78 | 14 | 6, 8, 21 (13) | 2, 3 |
| 5 | $D_{26} \cdot 2$ | 52 | 14 | 8, 24 (13) | 3 |
| 6 | $13 : 3$ | 39 | 14 | 14, 27 (13) | 4 |
| 7 | D_{28} | 28 | 78 | 12, 13, 11, 25 (7) | 1 |
| 8 | D_{26} | 26 | 14 | 14, 28 (13) | 4, 5 |
| 9 | $2^2 : S_3$ | 24 | 91 | 16, 19 (3), 22 (4) | 1 |
| 10 | D_{24} | 24 | 91 | 18, 17, 15, 19 (3) | 1 |
| 11 | D_{14} | 14 | 78 | 20, 28 (7) | 2, 7 |
| 12 | D_{14} | 14 | 78 | 20, 29 (7) | 7 |
| 13 | 14 | 14 | 78 | 20, 29 | 7 |
| 14 | 13 | 13 | 14 | 30 | 6, 8 |
| 15 | D_{12} | 12 | 91 | 21, 23 (2), 26 (3) | 2, 10 |
| 16 | A_4 | 12 | 91 | 26, 27 (4) | 2, 9 |
| 17 | 12 | 12 | 91 | 21, 24 | 3 (2), 10 |
| 18 | D_{12} | 12 | 91 | 22 (2), 21, 25 (3) | 10 |
| 19 | D_8 | 8 | 273 | 26, 25, 24 | 9, 10 |
| 20 | 7 | 7 | 78 | 30 | 11, 12, 13 |
| 21 | 6 | 6 | 91 | 27, 28 | 4 (2), 15, 17, 18 |
| 22 | S_3 | 6 | 182 | 27, 29 (3) | 9 (2), 18 |
| 23 | S_3 | 6 | 182 | 27, 28 (3) | 15 |
| 24 | 4 | 4 | 91 | 28 | 5 (2), 17, 19 (3) |
| 25 | 2^2 | 4 | 273 | 28, 29 (2) | 7 (2), 18, 19 |
| 26 | 2^2 | 4 | 91 | 28 (3) | 15 (3), 16, 19 (3) |
| 27 | 3 | 3 | 91 | 30 | 6 (2), 16 (4), 21, 22 (2), 23 (2) |
| 28 | 2 | 2 | 91 | 30 | 8 (2), 11 (6), 21, 23 (6), 24, 25 (3), 26 (3) |
| 29 | 2 | 2 | 78 | 30 | 12 (7), 13, 22 (7), 25 (7) |

continued on next page

| <i>continued from previous page</i> | | | | | |
|-------------------------------------|-----------|-------|--------|-------------------|---|
| Nr. | Structure | Order | Length | Maximal Subgroups | Minimal Overgroups |
| 30 | 1 | 1 | 1 | | 14 (14), 20 (78), 27 (91), 28 (91), 29 (78) |

TABLE 1. Subgroup lattice of $L_2(13) : 2$

UNIVERSITÉ LIBRE DE BRUXELLES, DÉPARTEMENT DE MATHÉMATIQUES - C.P.216, BOULEVARD DU TRIOMPHE,
B-1050 BRUXELLES, BOURSIER FRIA

E-mail address: `tconnor@ulb.ac.be`

UNIVERSITY OF AUCKLAND, DEPARTMENT OF MATHEMATICS, PRIVATE BAG 92019, AUCKLAND, NEW ZEALAND

E-mail address: `d.leemans@auckland.ac.nz`