

# Some optimal codes admitting the simple group $L_3(4)$ as an automorphism group

L. Chikamai\*, J. Moori and B.G. Rodrigues

University of KwaZulu-Natal

*chikamail@ukzn.ac.za*

**SAMS Subject Classification: Algebra**

Using a combination of techniques described in [1, 2] and in [3] we determine non-trivial binary codes and designs from the 2-modular representations of  $L_3(4)$ .

## References

- [1] P. L. H. Brooke, *On matrix representations and codes preserved by the simple group of order 25920*, J. Algebra , 91 (1984), 536–566.
- [2] P. L. H. Brooke, *On Steiner systems  $S(2,4,28)$  and codes associated with the simple group of order 6048*, J. Algebra, 97 (1985), 376–406.
- [3] J. D. Key , J. Moori, *Codes, Designs and Graphs from the Janko Groups  $J_1$  and  $J_2$* , J. Combin. Math. and Combin. Comput., 40 (2002),143–159.