ADDENDUM TO "ON 2-TRANSITIVE 3-NETS"

Arrigo Bonisoli

If $\sum_{i=0}^d c_i z^i \in GF(q)[z]$ is a primitive polynomial of degree d over $GF(q)$, then the polynomial $(\sum_{i=0}^d c_i z^{q^i})/z$ is irreducible. This result goes back to Ö. Ore [3, Thm.5 p.264], see also [2, 3.63 p. 117]. Since a primitive polynomial over $GF(q)$ exists for each degree d , the above property and Proposition 6.4 in [1] yield

PROPOSITION. Set $\Omega = GF(2^m)$, $G = \{x \mapsto x + b; b \in \Omega\}$ and $H = A\Gamma L(1, 2^m)$, where $m = 2^d - 1$ is a Mersenne prime. The 2-transitive 3-net $\mathcal{M}(G)$ is not minimal with respect to H .

The author is indebted to Prof. S.W. Golomb for this remark.

REFERENCES

- [1] A. Bonisoli, *On 2-transitive 3-nets*, J. of Geom. 41 (1991).
- [2] R. Lidl, H. Niederreiter, "Finite Fields", Cambridge University Press, Cambridge et al., 1984.
- [3] Ö. Ore, *Contributions to the Theory of Finite Fields*, Trans. Am. Math. Soc. 36 (1934) 243-274.

Arrigo Bonisoli
Dipartimento di Matematica
Università della Basilicata
via N. Sauro 85
85100 Potenza (Italy)

(Eingegangen am 6. August 1991)