

Results on meta-thin association schemes

MITSUGU HIRASAKA

Let (X, S) be an association scheme where X is a finite set and S is a partition of $X \times X$. We say that (X, S) is *schurian* if S is the set of orbitals of a permutation group of X . Let $H \leq N \trianglelefteq G$ with $N \leq N_G(H)$. Then G acts on G/H by the right multiplication. Here we focus on some class of association schemes, called *meta-thin*, to generalize the set of orbitals of the above action. Since the study of meta-thin association schemes was started in 2002, several sufficient conditions for a meta-thin association scheme to be schurian has been found (see [1],[2] and [3]). In this talk we introduce some basic terminologies to define meta-thin association schemes, we follow up a series of known results according to the chronological order and we show a new result on this topic, which is obtained by a joint work with K. Kim and I. Ponomarenko.

REFERENCES

- [1] M. Hirasaka, P.-H. Zieschang, *Sufficient conditions for a scheme to originate from a group*, J. Combin. Theory Ser. A **104** (2003), no. 1, 17–27.
- [2] M. Hirasaka, *On meta-thin association schemes*, Des. Codes Cryptogr. **34** (2005), no. 2–3, 187–201.
- [3] P.-H. Zieschang, *On association schemes with thin thin residue*, J. Algebra **322** (2009), no. 1, 54–67.

PUSAN NATIONAL UNIVERSITY, REPUBLIC OF KOREA

E-mail address: hirasaka@pusan.ac.kr