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Commutative association schemes and finite Gelfand pairs revisited.

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Abstract

The classification problem of P-and Q-polynomial association schemes has been (and still is) a central problem in algebraic combinatorics, since around 1980. Beyond that, we have been interested in studying more general commutative association schemes and finite Gelfand pairs, along the line of study of P-and Q-polynomial association schemes.

See for example, E. Bannai: Character tables of commutative association schemes, in Finite Geometries, Buildings, and Related Topics (ed. by W. M. Kantor et al.), Oxford Univ. Press, 1990, 105-128.

In this talk, I will try to present what I know and also what I want to know on commutative association schemes and finite Gelfand pairs. Sorry that I may not present new results, but I will try to give my personal views and speculations.