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Type-II matrices associated with 2-graphs and weighted strongly regular graphs

The class of type-II matrices includes Hadamard matrices and spin models. The Nomura algebra of a type-II matrix is the Bose-Mesner algebra of an association scheme. Since spin models are contained in their Nomura algebras, we consider type-II matrices associated with known schemes. Indeed, they exist in connection with strongly regular graphs, certain distance-regular graphs, and other combinatorial objects.

In this talk we investigate type-II matrices, 2-graphs and weighted strongly regular graphs.