

A matrix approach to generalized Petersen graphs

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(Joint work with A. Malnič, D. Marušič and Š. Miklavič)

Let Γ be a simple finite graph with an automorphism permuting the vertices into cycles of the same length. In the talk we study the automorphism group of Γ via spectral properties of Γ . In particular, we give a new and short proof of an old result of Frucht, Graver and Watkins (*Proc. Camb. Phil. Soc.*, **70** (1971), 211-218) classifying edge-transitive generalized Petersen graphs, and also discuss possible generalizations.