

Graphs on surfaces and two Dragan's favorite topics

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(in collaboration with R. Jajcay, M. Škoviera, M. Seifrtová)

Soon after creation of independent Slovenia I was invited by Dragan Marušič to spend a semester at Pedagoška Fakulteta, Univerza Ljubljana. While teaching a course in Elementary number theory exclusively on Monday's I had a lot of time to do research, mainly in collaboration with D. Marušič. Dragan suggested to investigate half-arc-transitive graphs. The second topic of Dragan's interest, I started to deal with later, is hamiltonicity of vertex-transitive graphs. Both topics have an intersection with topological graph theory, in particular, if we restrict ourselves to least interesting degrees: half-arc-transitive graphs of degree four and cubic Cayley graphs. In my talk I will explain the relationship between maps, half-arc-transitive graphs and cubic Cayley graphs. I will summarise the relevant results including recent discoveries.

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