
PAVOL HELL, Simon Fraser University
Signed Graphs and Homomorphisms

Signed graphs first arose in the theory of social balance, and also arise in clustering in networks, root systems, matroids, and flows on non-orientable surfaces. They offer a refined view of many basic graph theory results. They are particularly intriguing from the perspective of graph homomorphisms. I will focus on the complexity dichotomy problem, discuss the solution of the basic homomorphism problem, and the new results and remaining challenges for the list homomorphism problem. The new results are joint with Jan Bok, Rick Brewster, and Nikola Jedličková.