

MATEMATISKA INSTITUTIONEN  
STOCKHOLMS UNIVERSITET  
Avd. Matematik

## SJÄLVSTÄNDIGT ARBETE I MATEMATIK

Onsdagen den 19 februari kl. 10.00–12.00 presenterar Alex Loiko sitt arbete “An algebraic approach to the problem of graph isomorphism” (15 högskolepoäng, grundnivå).

Handledare: Boris Shapiro

Plats: Sal 32, hus 5, Kräftriket

Sammanfattning: This work investigates invariant theory and its application on a particular question, the isomorphism of graphs. We develop the commutative algebra theory required to prove that the methods of invariant theory apply to graph isomorphism, implement several algorithms in Mathematica for solving graph isomorphism between complex-weighted graphs and analyze complexity. Along the way, we touch representation theory, group theory, and various algebraic methods.

Alla intresserade är välkomna!