

Counting Techniques

Simion FILIP

University of Chicago
UNITED STATES OF AMERICA

Asymptotic counts for objects with particular properties appear in fields ranging from number theory to physics. I will discuss some classical methods for counting lattice points and periodic trajectories. The techniques will involve dynamics (both homogeneous and inhomogeneous), as well as spectral and probabilistic methods. The tools go back to Siegel, Margulis, Eskin-McMullen, and many others.