Philadelphia Area Number Theory Seminar

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Cohomology of Arithmetic Groups and Endoscopy

Abstract:

How fast do Betti numbers grow in a congruence tower of compact arithmetic manifolds? The dimension of the middle degree of cohomology is proportional to the volume of the manifold, but away from the middle the growth is known to be sub-linear in the volume. I will explain how automorphic representations and the phenomenon of endoscopy provide a framework to understand and quantify this slow growth. Specifically, I will discuss how to obtain some explicit bounds in the case of unitary groups using Arthur's stable trace formula.

Thursday, April 7, 2022
3:25 – 4:45 PM

Bryn Mawr College
Department of Mathematics
Park Science Center **337**

Informal gathering at 3:10PM in Park 361