

abstract

Members Seminar
Topic:

Speaker:

Affiliation:

Date:

Time/Room:

Andrei Rapinchuk and I have introduced a new notion of ``weak-commensurability'' of subgroups of two semi-simple groups. We have shown that existence of weakly-commensurable Zariski-dense subgroups in semi-simple groups G_1 and G_2 lead to strong relationship between G_1 and G_2 . The key to understanding this is the existence of regular semi-simple elements in Zariski-dense subgroups with prescribed ``local'' behavior proved by us earlier. Our results on weakly-commensurable arithmetic groups lead to a solution of the well-known problem ``Can one hear the shape of a drum?'' for arithmetic compact locally symmetric spaces. I will describe some of our results and outline the techniques used to prove them.