

Meeting: 1006, Lubbock, Texas, SS 15A, Special Session on Discrete Groups, Homogeneous Spaces, Rigidity

1006-20-100 **Rostislav Grigorchuk*** (grigorch@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77843-3368. *Asymptotic exponders and Ramanujan graphs*. Preliminary report.

<>We will define the notions of asymptotic exponders and asymptotic Ramanujan graphs and discuss their construction by using automaton groups (that is groups generated by finite automata). Some C^* -algebras and traces associated to such groups will be mentioned as well. (Received February 09, 2005)