Algorithms on negatively curved spaces

Robert Krauthgamer robi@almaden.ibm.com Department K53/B2 IBM Almaden Research Center 650 Harry Road San Jose, CA 95120 USA

Abstract

We initiate the study of approximate algorithms on negatively curved spaces. These spaces have recently become of interest in various domains of computer science including networking and vision. The classical example of such a space is the real-hyperbolic space H^d for $d \ge 2$, but our approach applies to a more general family of spaces characterized by Gromov's hyperbolic condition (which is combinatorial).

Joint work with James R. Lee.