On *additive detour subgraphs*

Peter Hamburger

Indiana-Purdue University Fort Wayne

This is a joint work with

Nana Arizumi and **Alexandr Kostochka**

University of Illinois, Urbana

April 2, 2005

Abstract

A spanning subgraph G of a graph H is a *k-detour subgraph* of H if for each pair of vertices $x, y \in V(H)$, the distance, $\mathrm{dist}_G(x, y)$, between x and y in G exceeds that in H by at most k. Such subgraphs sometimes also are called *additive spanners*.

Construction of spanners with few edges and/or low maximum degree has attracted considerable attention in computer science lately.

We study k-detour subgraphs of the n-dimensional cube, Q^n, with few edges or with moderate maximum degree.

1