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*Weighted total dominating sets
in sparse regular graphs*

May 11, 2011, MH320

Abstract: A *total dominating set* D of a graph G is a subset of $V(G)$ satisfying the property that every vertex of G has at least one neighbor in D. If the vertices of G are assigned non-negative weights, then we may define a *minimum weight total dominating set* of G to be a total dominating set such that $\sum_{v \in D} W(v)$ is minimized. In this talk I will discuss sufficient conditions under which the expected weight of the minimum weight total dominating set of a sequence of randomly weighted r-regular graphs converges to some limiting value. We also obtain new upper bounds on the minimum size of a total dominating set for large girth r-regular graphs in the case when $r = 3$ or 4.

Background: Students with some basic probability and graph theory should be able to follow this talk.

About the speaker: Jason Lenderman is an applied mathematician at Lawrence Livermore National Laboratory, and a doctoral student in the UCLA Department of Statistics.

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Snacks in MH331B at 2:30 pm
Talk starts at 3 pm

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For more information, see our full schedule at:

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http://www.math.sjsu.edu/∼hsu/colloq/

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