



YMC 2006



Young Mathematicians Conference 2006
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COVERS, LAPLACIANS, AND HEAT KERNELS ON DIRECTED GRAPHS

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[Mentor: Efstratios Prassidis]

Abstract of Report Talk: We define combinatorial covers for directed graphs and show that, in certain cases, the Laplacians of a graph and its cover have the same spectrum. As a result, the heat kernels defined on the graphs have the same behavior asymptotically. We apply our calculations to homesick random walks on trees. Furthermore, our methods recover Lyons' result that connects the growth of a group to the coefficient of the homesick random walk on its Cayley graph. [GR12095021]

[Joint work with Clara Brasseur]

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