



# YMC 2006



Young Mathematicians Conference 2006

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## CALCULATING THE IHARA ZETA FUNCTION FOR SOME INFINITE GRAPHS

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**Abstract of Report Talk:** Calculating the Ihara zeta function provides connections between the combinatorial and the number theoretic properties of a graph. There are ways to extend the definition of the Ihara zeta function to infinite graphs. We concentrate on infinite graphs that are limits of finite graphs. That allows us to give explicit calculation of the Ihara zeta function for certain Cayley graphs of infinite groups. Our applications include certain linear groups over the integers and automata groups that have a generalized wreath product structure.

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