1014-05-681   **Matthew D. Horton*** (`mhorton@math.ucsd.edu`). *Ihara zeta functions of irregular graphs and the deletion of edges.*

Small changes in a graph, such as the deletion of an edge or the addition of a vertex to an edge, generally render the Ihara zeta function of the resulting graph unrecognizable as having any relation to the Ihara zeta function of the original. We will make the deletion of an edge less jarring by viewing it as the limit of the process of adding vertices to the edge we wish to demolish. In doing so, we uncover an interesting relation among the Ihara zeta functions of the graphs involved in the limit. (Received September 22, 2005)