1096-05-1310   **Corrine Previte*** (`previte@math.colostate.edu`). *Homology of the D-Neighborhood Complex of Graphs.* Preliminary report.

Consider a simple graph G with diameter d. Let D be a subset of $\{0, 1, \ldots, d\}$. For each vertex $u \in G$, let N_u be the simplex consisting of all vertices whose graph distance from u lies in D. We refer to N_u as the D-neighborhood of u. The D-neighborhood complex of G, denoted $C(G, D)$, is the simplicial complex generated by the D-neighborhoods of vertices in G. We relate properties of the graph G with the homology of the chain complex associated to $C(G, D)$. (Received September 14, 2013)