1084-05-150   **Chinh T Hoang**, **Marcin Kaminski**, **Joe Sawada** and **R. Sritharan***, Computer Science Department, The University of Dayton, Dayton, OH 45469. *Finding and listing induced paths and cycles.*

Many recognition problems for special classes of graphs can be reduced to finding and listing induced paths and cycles in a graph. We design algorithms to list all induced paths and cycles of a given length in a graph. As applications of our findings, we give algorithms to recognize quasi-triangulated graphs and brittle graphs. Our algorithms' time bounds are incomparable with previously known algorithms. (Received August 29, 2012)