1060-05-93   **Eddie Cheng** and **Christopher C Melekian*** (`chris.melekian@gmail.com`), 2200 N. Squirrel
Rd., Department of Mathematics and Statistics, Oakland University, Rochester, MI 48309.
Matching preclusion and condition matching preclusion of folded Petersen Cubes. Preliminary
report.

The matching preclusion number of a graph is the minimum number of edges whose deletion results in a graph that has
neither perfect matchings nor almost-perfect matchings. For many interconnection networks, the optimal sets are precisely
those induced by a single vertex. Recently, the conditional matching preclusion number of a graph was introduced to
look for obstruction sets beyond those induced by a single vertex. It is defined to be the minimum number of edges whose
deletion results in a graph *with no isolated vertices* that has neither perfect matchings nor almost-perfect matchings. We
find this number and classify all optimal sets for the folded Petersen cubes. Moreover, some general results regarding
Cartesian product are also presented. (Received March 23, 2010)