1009-05-95   **Tom Bohman*** (`tbohman@math.cmu.edu`), Department of Mathematics, Carnegie Mellon
University, Pittsburgh, PA 15213, and **Alan Frieze**. *A note on the Karp-Sipser algorithm.*

Let G be a graph on n vertices chosen uniformly at random for the collection of all graphs that have some fixed degree distribution. We consider the Karp-Sipser algorithm applied to G, which produces a matching. (In each step of the Karp-Sipser algorithm we choose an edge incident with a vertex of degree 1 to be an edge in the matching if such an edge exists and otherwise choose a random edge.) In this talk we give a simple condition on the degree distribution that ensures that the algorithm produces a nearly perfect matching. Applications of this observation to the problem of finding Hamilton cycles in various models of sparse random graphs will also be discussed. (Received August 08, 2005)