1053-05-359Chris Stephens (cstephen@mtsu.ed), Murfreesboro, TN 37132, and Xiaoya Zha*
(xzha@mtsu.edu), Murfreesboro, TN 37132. Spanning disks of toroidal embeddings.

A spanning subset of an embedded graph (containing all vertices but missing some edges) may provide a simpler structure, yet still enough information, to approach certain problems about that graph. In this paper we prove that any 3-representative embedding of a 4-connected graph in the torus has a spanning disk. Both representativity condition and connectivity condition are best possible. (Received September 10, 2009)