1073-54-199   **John S Kulesza*** (`jkulesza@gmu.edu`), George Mason University, Mathematics Department, MSN 3F2, 4400 University Drive, Fairfax, VA 22030, and **Keith Fox** (`kfox@gmu.edu`), George Mason University, Mathematics Dept, MSN 3F2, 4400 University Drive, Fairfax, VA 22030.
Rim-finite Separable Metric Spaces. Preliminary report.

It has been known that rim-n separable metric spaces which are arc free can have positive topological dimension but the smallest known value of n for which which this happened was n = 72. (A topological space is rim-n if it has a basis of open sets, each of which have at most n boundary points.)

We improve on this result by showing that for any n greater than 2, there is a rim-n subset of the plane which is arc free and connected (thus one-dimensional). We complete the picture by showing that a rim-2 separable metric space with dimension at least one must contain an arc. (Received August 01, 2011)