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Norfolk, VA 23529. *On The Existence of Haar Sets*. Preliminary report.

The cover of Lorentz's "Approximation Of Functions" has a picture of three non intersecting arcs emanating from one point, sometimes called a point of ramification. He observes in the text that a real-valued Haar set of dimension at least two can not exist on a compact Hausdorff set containing a point of ramification. Mairhuber proved that if a compact Hausdorff set supports a Haar set of real-valued functions of dimension at least two then it is homeomorphic to a subset of the circle. This note shows that if a Peano set does not contain a point of ramification then it is homeomorphic to a subset of the circle. This result combined with the result in Lorentz's book gives an easy proof of Mairhuber's result for Peano spaces. The result also gives an easy proof of a special case of a result of Morozov on the existence of vector-valued Haar sets. (Received September 24, 2006)