1090-03-149 **Xizhong Zheng*** (zhengx@arcadia.edu), 450 S. Easton Road, Glenside, PA 19038. *On the Computable Curves.*

In mathematics curves are typically defined as the images of continuous real functions (*parametrizations*) defined on a closed interval. They can also be defined as connected one-dimensional compact subsets of points. For simple curves of finite lengths, parametrizations can be further required to be injective or even length-normalized. All of these four approaches to curves are classically equivalent. However, if we define four different versions of *computable curves* based on the effectivization of these four approaches. It turns out that they are all different, and hence, we get four different classes of computable curves. More interestingly, these four classes are even *point-separable* in the sense that the sets of points covered by computable curves of different versions are also different. However, if we consider only computable curves of computable lengths, then all four versions of computable curves become equivalent. This shows that the definition of computable curves is robust, at least for those of computable lengths. In addition, we show that the class of computable curves of computable lengths is point-separable from the other four classes of computable curves. (Received February 26, 2013)