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From a continuous function  $f : X \rightarrow \mathbb{R}$  on a topological space  $X$ , one can construct a Reeb Graph. This graph summarizes the component structure of the level sets  $f^{-1}(a)$ , as the value  $a$  varies. In applications, Reeb Graphs may be constructed from noisy data that approximate some topological space. Thus there may be features (branches or loops) in the graph that do not correspond to actual topological features of the structure underlying the data, but rather correspond to noise. We present a method of collapsing loops whose persistence is below some small threshold  $\epsilon$ , which are the loops corresponding to noise. We assert that our method will only change the persistence of other loops by at most  $2\epsilon$  and present progress in proving our claim. (Received September 24, 2012)