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605, San Diego, CA 92152-5001. *Topological Data Analysis of Radar Pulses*. Preliminary report.

Topological Data Analysis (TDA) is a burgeoning field applying algebraic topology to the study of high-dimensional data sets. We present results from our use of TDA on commercial maritime radar data. When data from radar pulses is transformed to a point cloud in Euclidean space, an embedding of S^1 results, which can be detected in homology. In this way, pulses from unknown radars can be compared against known models to determine if they are from a new model class. (Received January 17, 2017)