1148-28-164 **Lisa Naples*** (lisa.naples@uconn.edu). *Hölder Curves and Parameterizations in the Analyst's Traveling Salesman Theorem.*

We present sufficient conditions to ensure that a set of points in Euclidean or infinite dimensional Hilbert space is contained in the image of a $(1/s)$-Hölder map $f : [0, 1] \to \ell^2$ with $s > 1$. Our results generalize the sufficient condition of the Analyst's Traveling Salesman Theorem which characterizes subsets of rectifiable curves in $\mathbb{R}^n$ or ℓ^2 in terms of Jones' beta numbers. The proof of the original Anaylst's Traveling Salesman Theorem relies on a metric characterization for rectifiable curves. Since such metric characterization is not available for Hölder curves, we construct parameterizations for approximating curves and then use tube approximations to ensure the limit of these curves is $1/s$-Hölder. This is joint work with Matthew Badger and Vyron Vellis. (Received February 01, 2019)