Whitney Extension and Lusin Approximation for Horizontal Curves in the Heisenberg Group

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Whitney extension results characterize when one can extend a mapping from a compact subset to a smooth mapping on a larger space. Lusin approximation results give conditions under which one can approximate a rough map by a smoother map after discarding a set of small measure. We first recall relevant results in the Euclidean setting, then describe recent work extending them to horizontal curves in the Heisenberg group. We focus on C^m curves.