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Akram Aldroubi and **Casey C Leonetti*** (casey.leonetti@vanderbilt.edu), Department of Mathematics, 1326 Stevenson Center, Nashville, TN 37240. *Non-uniform sampling and reconstruction from sampling sets with unknown jitter.*

This paper addresses the problem of non-uniform sampling and reconstruction in the presence of jitter. In sampling applications, the set $X = \{x_j : j \in J\}$ on which a signal f is sampled is not precisely known. Two main questions are considered. First, if sampling a function f on the countable set X leads to unique and stable reconstruction of f , then when does sampling on the set $X' = \{x_j + \delta_j : j \in J\}$ also lead to unique and stable reconstruction? Second, if we attempt to recover a sampled function f using the reconstruction operator corresponding to the sampling set X (because the precise sample points are unknown), is the recovered function a good approximation of the original f ? (Received September 25, 2006)