1012-42-147 **Jeffrey A Hogan*** (`jeffh@uark.edu`), Department of Mathematical Sciences, University of Arkansas, Fayetteville, AR 72701. *Frame-based nonuniform sampling of bandlimited signals.*

This talk involves an extension of some recent results in sampling theory where frame-based algorithms were developed for the reconstruction of bandlimited signals from infinitely many nonuniformly spaced samples. A version of this algorithm is first developed for signals in certain finite-dimensional subspaces of the Paley-Wiener spaces. Then it is shown how to extend these techniques to the approximate reconstruction of bandlimited, approximately timelimited signals from finitely many nonuniform samples. An estimate of the algorithm's complexity is also given. (Received September 18, 2005)