

Lossy Source Coding of Oversampled Data

David L. Neuhoff

Dept. of Electrical Engineering and Computer Science.

University of Michigan

Ann Arbor, MI 48109

Email: neuhoff@umich.edu

Abstract—Issues arising in dense sensor networks have spurred interest in determining the efficiency of various lossy source coding methods applied to the samples of a continuous-time stationary random process when the sampling rate is asymptotically large. This paper compares and contrasts results on several of these methods. One such method is a fixed scalar quantizer followed by an ideal entropy-rate coder that is optimized for the sampling rate. Another is a dithered quantization scheme, like that of Cvetkovic and Daubechies. Yet another is ideal lossy block coding.