20PM1A-2   **Waveform Reconstruction from Non-Uniform Samples with Application to Speech Coding**

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For non-stationary signals, such as speech, we show that extrema are useful non-uniform samples for **a** compact reconstruction. We demonstrate the effectiveness of different interpolating functions for reconstructing the signal from **the extrema.** We also **show that** such a non-uniform sample based reconstruction scheme can be used for applications like speech coding. In this context, we explore the quantization properties of the extrema information and design a good quality speech coder at **12-13** kbps.