

Problem 5.11

Justify the two statements just made on sources of noise in a DPCM system.

Solution

1. When the step-size is too small and the input signal is changing too rapidly, the DPCM is unable to track the input signal, resulting in slope-overload distortion similar to linear delta modulation.
2. DPCM uses a quantizer in the transmitter. Hence, like pulse-code modulation, DPCM suffers from quantization noise.