Speech Signal Processing
Project n°2

Report

Student
Antoine Honoré
honore@kth.se

Student
Félix Côte
@kth.se

2015/2016 Period 3

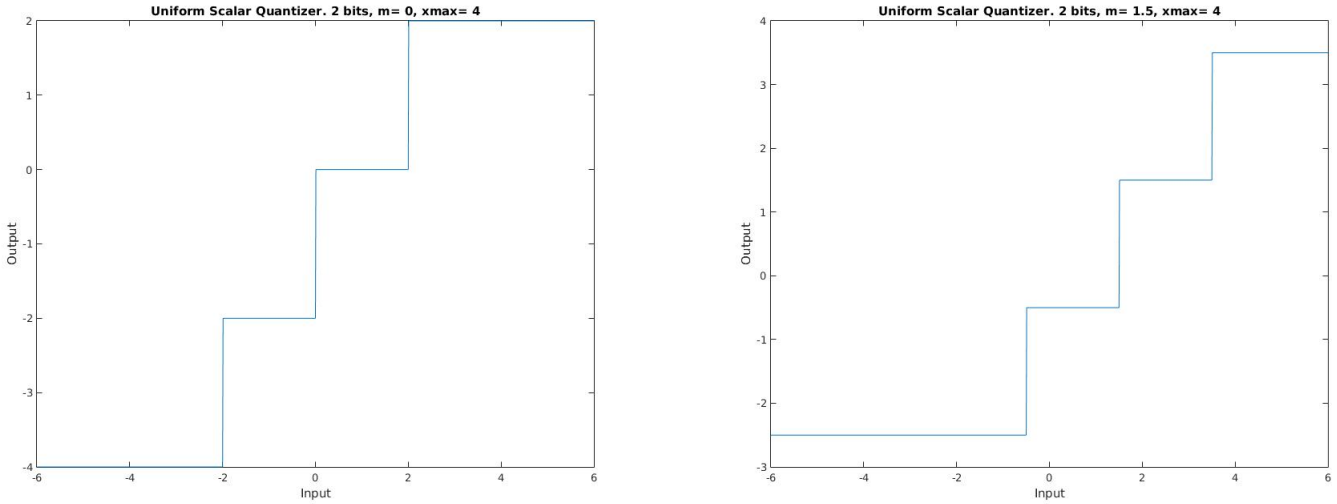
I Introduction

II Uniform Scalar Quantizer

In this part we implement the most basic quantizer. The USQ is entirely defined with three parameters :

- n_{bits}, the number of bits used to code one sample. $2^{n_{bits}}$ is the number of output value ;
- m, the mean of the output values ;
- xmax the maximum of the output values ;

In this part we tried m=0 and m=1.5. The result that we got plotting the input sigal versus the input signal is presented on figure 1.



(a) m = 0

(b) m = 1.5

FIGURE 1 – Input vs Output

To compare the two settings, we need to plot the distorsion-rate curve and compare the performance. This is presented on figure 2.

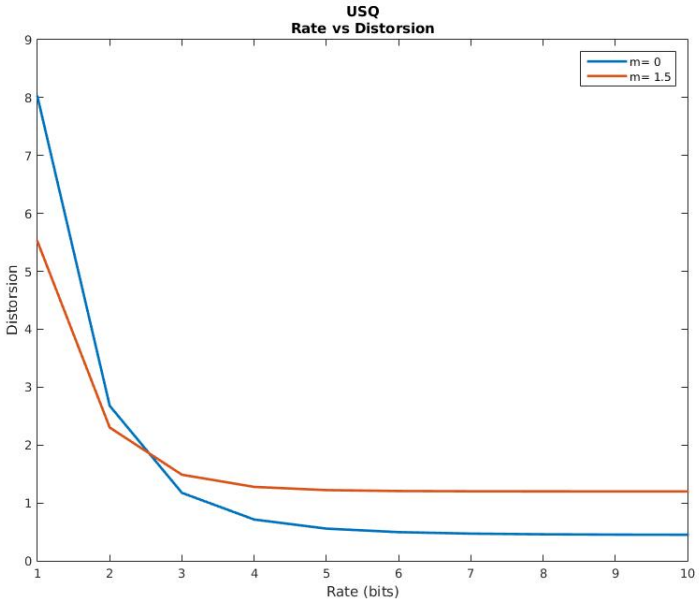


FIGURE 2 – Rate-Distorsion curve for two values of m.

III Parametric coding of speech

dsd