**RAKE receiver**

Here is how I do the RAKE receiver in matlab file

**Path search**

Since perfect knowledge of the channel.

I assume receiver already know which channel carried signal

I just select the delay of pseudo-random sequence for [1] and [0,0,0,0,0,1]

**DeSpread**

Apply the pseudo-random sequence

Delay the sequence with [1] and [0,0,0,0,0,1] by using the filter function.

Do Integration

Do the Integration for each original symbol length.

I use the mean() to do Integration for each 64 value

**MRC**

Apply attenuation for MRC

Apply the gain of channel as attenuation for MRC before the Integration

Combine the signal

**Hard decision decoding**

**Theoretical SER.**

Because the spread the symbol through the 64 times.

So the SNR of DSSS should lower 64 times after spread.

I compute shifted EBNO in my matlab file

For the no fading channel

I use AWGN formula.

For the fading channel

I use the 2 branch MRC formula.

And 4 branch MRC formula.