



GUJARAT TECHNOLOGICAL UNIVERSITY

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CIRCULAR

Interested faculty members and students may register for the following webinar which is going to be held on Fri, Apr 8, 2016 3:30 PM - 4:30 PM IST.

Virtual Academy: Simulation and Comparative Analysis of STBC and STTC in MIMO Technique

Fri, Apr 8, 2016 3:30 PM - 4:30 PM IST

Registration URL: <https://attendee.gotowebinar.com/register/4514961254140251138>

Description:

Diversity techniques have been applied to overcome multipath fading in the wireless communication. MIMO is a spatial diversity technique. With multiple transmit and multiple receive antenna, there are many ways to transmit data using coding. STBC and STTC are the techniques for which the performance can be evaluated. The main objective of the proposed research work is to compare STBC and STTC in MIMO technique. The simulation results are taken for BPSK modulation scheme and under Rayleigh fading channel. SNR and BER are the parameters to judge the performance of the system are analysed. BER is analysed for 1, 2, 3, 4, and 5 transmitting and receiving antennas. Unlike above mentioned codes, DSTBC is a coding technique which do not require CSI. DSTBC is analysed in MIMO for the same channel conditions and the bit sequence of 130 equiprobable bits is taken as the input sequence. The results are shown for 1 and 2 receiving antennas. The input bit sequence is mapped, AWGN is added and the data is transmitted under Rayleigh multipath fading channel. The received data is decoded and compared with the input bit sequence to find total BER. It is observed that as the SNR increases, BER decreases.

DVB-T is the European-based consortium standard for the broadcast transmission of digital terrestrial television. Initially the DVB-T system is analysed considering the ideal communication channel and then DVB-T system is analysed with DSTBC. The above mentioned DSTBC system is considered. An image is taken as the input to both the systems and it is found that in second system the BER decreases with increase in SNR and at the receiver the image is retrieved.

Presenter:

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Sd/-
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