Chapter 4: TCM on Bandlimited ISI Channels

Chapter 4 deals with a study on problems associated with the transmission of TCM over bandlimited ISI channels and review of basic equalizer structures normally employed in practice to mitigate the effects of ISI. Optimum combined MLSE receiver structure has been considered for the study and design of several combined ISI-code trellis structures and state complexity which limit their practical applicability are discussed.

Chapter 5: Sub-optimum Reduced State Receivers on ISI Channels

Channel truncation technique to reduce the structural complexity of combined ISI-code trellis and several Reduced State Sequence Estimation decoding strategies have been discussed in this chapter. The simulation results of error event performance are presented.

Chapter 6: Iterative Decoding Techniques

Two new sub-optimum decoding strategies, viz, Iterative-Decoding and Extended-Refined Iterative-Decoding have been presented and are evaluated through simulation.

Chapter 7: Conclusions

We conclude the thesis with a summary of important results and suggestions for further work.