1 Modern wireless communication systems - overview

1. **Modern communication systems and concept of the cellular wireless systems**
   Literature:[Rap02, Chapter 2,3]

2 Wireless channel

1. **Large-scale fading effects in wireless communication**
   [Rap02, Chapter 4]
2. **Small-scale fading and multipath propagation**
   [Rap02, Chapter 5]
3. **Channel coding for wireless communication systems**
   [Rap02, Chapter 5],[Skl01, Chapter 7,8]

3 Spread-Spectrum communications for wireless systems

1. **Frequency hopping systems**
   [Skl01, Chapter 12]
2. **Direct-Sequence Spread-Spectrum systems**
   [Skl01, Chapter 12]

4 Multiple access techniques

1. **FDMA and TDMA systems**
   [Rap02, Chapter 9],[Skl01, Chapter 11], [Ver98]
2. **CDMA and OFDM systems**
   [Rap02, Chapter 9],[Skl01, Chapter 11], [Ver98]
3. **PDMA and SDMA systems**
   [Rap02, Chapter 9],[Skl01, Chapter 11], [Ver98]

5 Smart antennas and MIMO systems

1. **Identification of FIR-MIMO systems**
   [LL96, Bli96]
2. **Channel equalization techniques**
   [Rap02, Chapter 7][LLR90] [Bli96][DL98],[AD02]
3. **Wireless channel capacity based on SISO and MIMO systems**
   [Tso01, Chapter 3][FG98]
4. **Beamforming and Direction-of-Arrival estimation with MIMO antenna systems**
   [Tso01, Chapter 2]
5. **MIMO antenna subset selection with space-time coding**
   [GP02]

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