



International Master's Program in Telecommunication Engineering

Course Name: Full-Duplex Communications for Future Wireless Networks
下世代無線網路之全雙工通訊

Course Objects:

Students will learn the mathematics required in full-duplex communication theory and understand the functional blocks of the communication system. Besides, they will also study the various applications of full-duplex systems in the next-generation (5G and 6G) communications.

Course Syllabus:

Half-duplex wireless communication systems, or commonly known as time-division duplex or frequency-division duplex, employ two orthogonal channels to transmit and receive, and thus they cannot achieve the maximal spectral efficiency. Full-duplex wireless communication systems on the other hand enable simultaneous transmission and reception at the same time in the same frequency band, and can be a promising technique to potentially double the link capacity, and meet the projected increase in spectral efficiency. At the end of the course, the students will be able to understand the fundamental concepts of full-duplex communications.