

Modern Coding Theory Short Course



Speaker : Joerg Kliewer

- Associate Professor in ECE at NJIT.
- Area editor of the IEEE Transactions on Communications
- Research areas : Information theory, Error correcting codes, Communication networks, Secure communication.

Date : three days short course (the course is free)

2015/9/29(Tuesday.) 13:20 – 15:10

2015/9/30(Wednesday.) 15:30 – 17:20

2015/10/1(Thursday.) 13:20 – 15:10

Engineering Building 4 Room 824

Organizer : NCTU Institute of Communications Engineering

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Modern Coding Theory Short Course

Abstract:

1. Low-density parity check(LDPC) and other graph based codes
 - Factor graphs
 - Iterative decoding
 - Density evolution
 - Repeat-accumulate codes
2. Spatially coupled codes
 - Basic structure and asymptotic properties
 - Decoding and practical considerations
3. Convolutional codes
 - Encoding, state diagrams, finite state machines, trellis
 - BCJR (soft-input soft-output) decoding
4. Turbo codes, serially concatenated codes
 - Structure, encoding
 - Iterative decoding
 - Convergence analysis