

SOURCE: Communication Systems & Networks Laboratory,
 University of Bristol, UK

Hybrid self-interference cancellation for small form factor realization of in-band full duplex

Abstract—In-band full-duplex (IBFD) which operates on the same frequency at the same time has the potential to double the spectrum efficiency. However, this proposal needs high isolation in the full-duplex transceiver to mitigate the self-interference (SI) which results from co-located co-channel transmitter and receiver. This paper presents a kind of hybrid SI cancellation architecture which consists of two stages of analog cancellation and one stage of digital baseband cancellation. A prototype based on this hybrid architecture and corresponding achievable cancellation performance will be discussed. Simulation results show the overall isolation suppresses the SI 3dB higher than the noise floor of the receiver.

Chunqing Zhang, Leo Laughlin, Mark A. Beach, Kevin A. Morris, and John L. Haine.
Merchant Venturers Building, Woodland Road, Clifton, UK. BS8 1UB
Phone: +44 (0) 117 331 5052
Fax: n/a
Email: jack.zhang@bristol.ac.uk