France Telecom activity in Newcom WPR1/SPW2

Pierre SIOHAN (France Telecom, RESA/BWA)

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ACTIVITY OF RESA/BWA

- RESA: One Direction of France Telecom Research and Development with activity connected to network access (wired and wireless)

- BWA (Broadband wireless access: A laboratory of RESA ("mainly" located in Rennes)
  - Studies and implication in wireless networks (WLAN, WPAN, etc.)
  - Standardization activities: 802.11n, 802.16, 802.15, 802.22
  - Implication in IST projects: Winner, Magnet, Newcom, etc.

- Research topics
  - Joint-source channel coding (and decoding)
  - Error correcting codes (turbo codes, LDPC, etc.)
  - Advanced multicarrier modulation schemes
  - MIMO-OFDM (precoding and low complexity receivers)
  - Network access techniques (OFDMA/MC-CDMA/IFDMA)
ACTIVITY CONNECTED TO SPW2

➡ Filterbank based multicarrier modulations
   ➡ O(B)FDM with offset modulation (ex.: P. Siohan et al., IEEE Trans on SP, 2002)
   ➡ Oversampled O(B)FDM (ex.: C. Siclet et al., to appear in JASP)

➡ With a focus on
   ➡ PAPR (Analysis and reduction), papers submitted and in preparation
   ➡ Channel estimation and equalization for mobile communication channels
   ➡ and, in a near future, connections with MIMO and CDMA (if included in the SPW2 topics)

➡ FT only a small of resources notified for Newcom (in general) and WPR1/SPW2 in particular
   ➡ SPW2: part-time of a permanent researcher (P. Siohan) and of a PhD student (A. Skrzypczak)

➡ A possible collaboration topic: PAPR reduction