

Call for Papers Special Section on Radio Access Techniques for 3G Evolution

The IEICE Transactions on Communications announces that it will publish a special section entitled "Special Section on Radio Access Techniques for 3G Evolution" in **May 2009**.

Continuous growth in the 3rd generation (3G) cellular systems is vital to fulfilling the increasing demands of customers and achieving prosperity in the telecommunications industry. In the 3GPP (3rd Generation Partnership Project), the work item (WI) specifications were completed on the long-term evolution of UMTS (Universal Mobile Telecommunications System) called the Evolved UTRA (UMTS Terrestrial Radio Access) and UTRAN (UMTS Terrestrial Radio Access Network). At the same time, High-Speed Packet Access (HSPA) is continuously being enhanced to add new technical features. Moreover, UMB (Ultra Mobile Broadband) is specified and has been enhanced in the 3GPP2 (3rd Generation Partnership Project Two), aiming at almost the same requirements as those for the 3GPP evolution. It should also be noted that the IEEE (The Institute of Electrical and Electronics Engineers, Inc.) established the IEEE 802.16e standard called Mobile WiMAX (Worldwide Interoperability for Microwave Access), which has similar requirements as those for the 3GPP evolution, and the WiMAX forum is continuing its enhancements.

The 3G evolution systems will achieve packet-based radio access networks with low latency and high affinity to IP-based core networks, in order to provide rich high-rate services at low cost. They focus on high-speed data services such as mobile Internet and multimedia broadcast/multicast services (MBMS) etc. Moreover, higher-level requirements than existing cellular systems are specified in the systems such as peak data rate, spectral efficiency, and area coverage and so on. To achieve such a high system requirements and service availability, many key radio access techniques will be introduced and incorporated, which will be competitive even in future 4G eras. Furthermore, some techniques are under development to achieve smooth migration to the future 4G, i.e., IMT-Advanced, systems.

The papers in this section will focus on radio access techniques for 3G evolution up to Layer 3, i.e., PHY (Physical), MAC (Medium Access Control), and RRC (Radio Resource Control) Layers.

1. Scope

This special section aims at timely dissemination of research in these areas. Possible topics include, but are not limited to:

- Air interface for 3G evolution (physical channel, transport channel, etc.), Scalable multi-band transmission, Multiple access schemes (CDMA/TDMA/FDMA/OFDMA)
- Link adaptation, Radio transmission technologies (modulation/detection scheme, orthogonal transmission, etc.), Radio resource assignment, Channel coding/decoding (Turbo codes/LDPC codes/iterative decoding schemes), ARQ (MAC, RLC (Radio Link Control) layers), MAC protocols and control signaling protocols, Synchronization schemes, Channel estimation
- Channel modeling/measurement
- MBMS (Multimedia Broadcast Multicast Service), Wireless multimedia, audio, and video
- Advanced receiver (multi-user detection, interference canceller), Transmit diversity, MIMO channel transmissions (precoding, rank adaptation, signal detection, etc.), Adaptive beam forming, Inter-cell interference management (interference randomization, interference cancellation, inter-cell interference coordination), Relay techniques

2. Submission Instructions

Papers must be submitted by August 15, 2008. Manuscripts should be prepared according to the guidelines given in the "Information for Authors." The latest version is available at the web site, http://www.ieice.org/eng/shiori/mokuji_cs.html. The recommended length is within 8 printed pages for a paper, 2 printed pages for a letter.

This special section will only accept papers by electronic submission. Prospective authors are requested to follow carefully the submission process described below.

1. Submit a paper using the IEICE Web site https://review.ieice.org/regist_e.aspx. Authors should choose the [Special-EB] Radio Access Techniques for 3G Evolution as the "Type of Issue (Section)/Category of Transactions" on the online screen. Do not choose [Regular-EB].

2. Send the "Copyright Transfer and Page Charge Agreement" and "Confirmation Sheet of Manuscript Registration" forms by postal mail (NOT by FAX or E-mail) to the following address (secretary of the special section) by **August 15, 2008**. Please write "Special Section on Radio Access Techniques for 3G Evolution" on the envelope.

We cannot start the review process without these forms, even if we receive the manuscript. For additional guidelines on manuscript preparation, please visit http://www.ieice.org/eng/shiori/mokuji_cs.html. It should be noted that a revised manuscript is expected to be resubmitted within approximately 45 days of the date of acknowledgement of Conditional Acceptance for this Special Section.

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