

Scheduled System Maintenance: On Saturday, July 22, IEEE *Xplore* will undergo scheduled maintenance from 9:00 AM-1:00 PM ET (1:00-5:00 PM UTC). During this time, there will be periods when the website will be unavailable. We apologize for any inconvenience.

✕

IEEE.org IEEE *Xplore* IEEE SA IEEE Spectrum More Sites [Subscribe](#) [Subscribe](#) [Cart](#) [Create Account](#) [Personal Sign In](#)

☰

[Browse](#) ▼ [My Settings](#) ▼ [Help](#) ▼ [Institutional Sign In](#)

[Institutional Sign In](#)

All ▼ 🔍

ADVANCED SEARCH

Conferences > 2010 The 12th International C... ?

On the selection of training sequence code pair for MIMO technology in 3GPP GERAN system

Publisher: IEEE [Cite This](#) PDF

Jae-Hyuk Lee ; Jun-Ho Baek ; Seung-Hoon Hwang ; Byoung-Jo Choi **All Authors**

87

Full Text Views

[Info](#) [Share](#) [Cite](#) [Download](#) [Alerts](#)

Alerts

[Manage Content Alerts](#)

[Add to Citation Alerts](#)

Abstract

Document Sections

I. Introduction

II. Training Sequence Code

III. Proposed Method

IV. Conclusion

Authors

Figures

References

Keywords

Metrics

More Like This

 Downl PDF

Abstract:In this paper, we investigate to relationship between TSCs (training sequence codes) and find optimal pair to decrease the channel estimation error in GSM/EDGE evolution ... [View more](#)

► **Metadata**

Abstract: In this paper, we investigate to relationship between TSCs (training sequence codes) and find optimal pair to decrease the channel estimation error in GSM/EDGE evolution system. For the proposed pair, the cross-correlation between the TSCs is employed. Such TSC codes as in normal symbol rate, high symbol rate, and MUROS (Multi User Reusing One Slot) scheme are considered. To decrease the channel error variance may result in improving the performance of channel estimation.

Published in: 2010 The 12th International Conference on Advanced Communication Technology (ICACT)

Date of Conference: 07-10 February 2010

INSPEC Accession Number: 11208762

Date Added to IEEE *Xplore*: 01 April 2010

Publisher: IEEE

► ISBN Information:

Conference Location: Phoenix Park

► ISSN Information:

☰ Contents

I. Introduction

Beyond dispute, GSM (Global System for Mobile communications) network is the most successful commercial cellular mobile communication system hitherto. It is reported that the number of GSM users all over the world had reached 4 billion by 2009.[1] The increase in the number of users and voice traffic puts a huge pressure on operators especially in populous countries. GSM launched GPRS (General Packet Radio Service) to support high speed packet data. As a result of the transition from voice communications to multimedia applications, EDGE (Enhanced Data for GSM Evolution) has been involved in GSM [2]. Since 2000, 3GPP TSG (Technical Specification Group) GSM/EDGE Radio Access Network (GERAN) had been enhanced performance toward 4G. According to the latest standard, GERAN Evolution was introduced high order modulation order, Turbo coding high symbol rate [3] to support higher symbol rate (325k symbol/s), which is 1.2 times faster than normal symbol rate (271k symbol/s). GSM/EDGE standard specifies a set of eight training sequences code (TSC) for channel estimation that have 26 symbols for normal burst (L-TSC) and 31 symbols for high symbol burst (H-TSC)[3]. The 4G candidate technologies, such as HSPA-Evolution, LTE-advance and WiMAX phase-2, etc., were commonly adapted the SM (Spatial Multiplexing)-MIMO scheme [4]–[6]. Theoretically, SM-MIMO can increase throughput as number of min (Tx, Rx) antennas increases. From this trend, it is not impossible to adapt SM-MIMO antennas technique for the GERAN Evolution [7]. For 2 by 2 case, two different TSC should be sent simultaneously from both transmitter antennas. In generally, the TSC has good auto-correlation property but its cross-correlation properties are good only for certain combination of sequence. Lower performance due to channel estimation error will occur if we select unsuitable TSC pairs.

Authors	▼
Figures	▼
References	▼
Keywords	▼
Metrics	▼

Need
Full-Text

access to IEEE Xplore
for your organization?

CONTACT IEEE TO SUBSCRIBE ►

More Like This

Performance of adaptive coding by selection of space-time block code matrix [3G mobile communication]
IEEE 60th Vehicular Technology Conference, 2004. VTC2004-Fall. 2004
Published: 2004

A novel method of matrix channel estimation for MIMO system [3G mobile communications]
15th International Conference on Electronics, Communications and Computers (CONIELECOMP'05)
Published: 2005

Show More



CHANGE
USERNAME/PASSWORD

PAYMENT OPTIONS
VIEW PURCHASED
DOCUMENTS

COMMUNICATIONS
PREFERENCES
PROFESSION AND
EDUCATION
TECHNICAL INTERESTS

US & CANADA: +1 800
678 4333
WORLDWIDE: +1 732
981 0060
CONTACT & SUPPORT



About IEEE Xplore Contact Us Help Accessibility Terms of Use Nondiscrimination Policy IEEE Ethics Reporting Sitemap
IEEE Privacy Policy

IEEE Account

- » [Change Username/Password](#)
- » [Update Address](#)

Purchase Details

- » [Payment Options](#)
- » [Order History](#)
- » [View Purchased Documents](#)

Profile Information

- » [Communications Preferences](#)
- » [Profession and Education](#)
- » [Technical Interests](#)

Need Help?

- » **US & Canada:** +1 800 678 4333
- » **Worldwide:** +1 732 981 0060
- » [Contact & Support](#)

[About IEEE Xplore](#) [Contact Us](#) [Help](#) [Accessibility](#) [Terms of Use](#) [Nondiscrimination Policy](#) [Sitemap](#) [Privacy & Opting Out of Cookies](#)

A not-for-profit organization, IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.
© Copyright 2023 IEEE - All rights reserved. Use of this web site signifies your agreement to the terms and conditions.