



اَوْنِيُوْرَسِيْتِي تِي كُوْلُو كِي مَارَا
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**HANDOVER TRIGGER SCHEME FOR MOBILE
COMMUNICATION IN HIGH SPEED MOBILE ENVIRONMENT**

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ABSTRACT

High speed rail has been developed rapidly in recent years. The passengers travelled by trains demand for higher data rate and service continuity in order for them to access the Internet. The realization to provide reliable communication for the users in high speed mobility is challenging due to the frequent request for handover since the trains moving in high speed which resulting heavy overhead implementation. Since the User Equipment (UE) in trains communicates directly to the outside of the Base Station (BS), it reduced handover successful rate and hence, degraded the service quality. This research identified the system parameters to improve handover performance in high speed railway network. Moreover, mathematical equation has been derived by integrating the information of train speed and time travelled across the cell. This research has improved handover performances by reducing the probability of drop call rate and increasing the number of handover successful rate.

TABLE OF CONTENTS

DECLARATION.....	i
ACKNOWLEDGEMENT.....	ii
ABSTRACT.....	iii
TABLE OF CONTENTS.....	iv
LIST OF FIGURES.....	vii
LIST OF TABLES.....	ix
LIST OF SYMBOL AND ABBREVIATIONS.....	x
CHAPTER 1: INTRODUCTION.....	1
1.1 HIGH SPEED TRAINS.....	1
1.2 HANDOVER.....	1
1.2.1 HARD HANDOVER.....	2
1.2.2 SOFT HANDOVER.....	2
1.2.3 SOFTER HANDOVER.....	2
1.3 FAST HANDOVER.....	3
1.4 PROBLEM STATEMENTS.....	5
1.5 OBJECTIVE.....	6
1.6 SCOPE OF WORK.....	6
1.7 THESIS ORGANIZATION.....	7
CHAPTER 2: LITERATURE REVIEW	
2.1 INTRODUCTION.....	9
2.2 LTE.....	9
2.2.1 THE MOTIVATION FOR LTE.....	10
2.2.2 LTE OVERVIEW.....	10
2.3 WIRELESS COMMUNICATION SYSTEMS FOR HIGH-SPEED RAIL	16

CHAPTER 1

INTRODUCTION

1.1 HIGH SPEED TRAINS

High speed rail has been developed rapidly in recent years. The passengers travelled by trains demand for higher data rate and service continuity in order for them to access the Internet. The realization to provide reliable communication for the users in high speed mobility is challenging due to the frequent request for handover since the trains moving in high speed trains which resulting heavy implementation overhead. Since the User Equipment (UE) in trains communicates directly to the outside of the Base Station (BS), it reduced handover successful rate and hence, degraded the service quality. This research will identify the system parameter to improve handover performance in high speed railway network. Moreover, mathematical modelling will be derive by integrating the information of train speed and time travelled across the cell. This research will improve a handover performance by reducing the probability of drop call rate and increasing the number of handover successful rate.

1.2 HANDOVER

Handover refers to the process of transferring an on-going call or data session from one channel connected to the core network to another channel. In telecommunications there may be different reasons why a handover might be conducted. When the phone is moving away from the area covered by one cell and entering the area covered by another cell the call is transferred to the second cell in order to avoid call termination when the phone gets outside the range of the first cell. When the phone is moving away from the area covered by one cell and entering the area covered by another cell, the call is transferred to the second cell in order to avoid