THESIS/DISSERTATION TITLE

ВУ

STUDENT'S NAME

A Thesis Presented to the DEANSHIP OF GRADUATE STUDIES

In Partial Fulfillment of the Requirements for the Degree of

MASTER OF SCIENCE

IN

STUDENT'S MAJOR

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

Dhahran, Saudi Arabia

ENTER MONTH AND YEAR

KING FAHD UNIVERSITY OF PETROLEUM & MINERALS DHAHRAN 31261, SAUDI ARABIA

DEANSHIP OF GRADUATE STUDIES

This thesis, written by **STUDENT'S NAME** under the direction of his thesis adviser and approved by his thesis committee, has been presented to and accepted by the Dean of Graduate Studies, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE IN STUDENT'S MAJOR**.

	Thesis Committee
	Dr. (Adviser)
	Di. (Adviser)
	Dr. (Member)
	Dr. (Member)
Dr.	
Department Chairman	
Dr. Salam A. Zummo	
Dean of Graduate Studies	
Date	

©Student's Name Year Dedication

ACKNOWLEDGMENTS

It's customary and good manners to say thank you. Keep in mind that one has to use one's own words when writing an acknowledgement.

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LIST OF SYMBOLS

 Γ This is a symbol

LIST OF ABBREVIATIONS

Ph.D. Doctor of Philosophy

THESIS ABSTRACT

NAME: Student's Name

TITLE OF STUDY: Thesis/Dissertation Title

MAJOR FIELD: Student's Major

DATE OF DEGREE: Enter Month AND Year

When writing an abstract, bare in mind an abstract is a short descriptive summary of your thesis. The number of words accepted might vary e.g. 200-250 words. An MS thesis abstract need not exceed two pages. Abstracts are typically written last although they are the most important part of the thesis. They should have a little bit of everything: the background, the scope of your project, the purpose, findings and conclusions. An abstract is neither paragraphed nor cited. It should not be written as a literature review or a discussion of results. In a simplistic manner, your abstract, in a few words, should answer the questions: why should one care about your research; how did you get your results; what did you learn, find, create, invent; and finally what do your results imply?

ملخص الرسالة

الاسم: اسم الطالب

عنوان الدراسة: عنوان الرسالة

التخصص: قسم الطلاب

تاريخ الدرجة العلمية: أدخل الشهر والسنة

عند كتابة ملخص ، ضع في اعتبارك مجرد ملخص هو ملخص وصفي قصير لأطروحتك. قد يختلف عدد الكلمات المقبولة على سبيل المثال: 200 - 250 كلمة. يجب ألا يتعدى ملخص رسالة ماجستير صفحتين. عادة ما يتم كتابة الملخصات على الرغم من كونها أهم جزء في الرسالة. يجب أن يكون لديهم القليل من كل شيء: الخلفية ، نطاق مشروعك ، الغرض ، النتائج والاستنتاجات. الملخص ليس مفصولًا أو مذكورًا. لا ينبغي أن تكون مكتوبة كمراجعة للأدبيات أو مناقشة النتائج. بطريقة مبسطة ، يجب أن يجيب الملخص الخاص بك ، في كلمات قليلة ، على الأسئلة: لماذا يجب أن يهتم المرء بأبحاثك ؛ كيف حصلت على نتائجك؟ ماذا تعلمت ، وجدت ، وخلقت ، وأخيرًا ماذا تعنى نتائجك؟

CHAPTER 1

TITLE OF CHAPTER 01

Enter the material. The symbols and abbreviations defined can be used using the $\gray|$ gls command. The defined symbol is Γ . When the acronym is used for the first time it gives the full form as follows Doctor of Philosophy (Ph.D.). Thereafter, it only gives the abbreviation as follows Ph.D.. The full form, short form and plural of the acronym can be called as follows Doctor of Philosophy (Ph.D.), Ph.D. and Ph.D.s respectively.

1.1 1^{st} Section Title

Typically the first chapter is the Introduction. The main goal of your introduction is to identify a problem that is worthy of investigation. It must also provide some idea of your research goals and approach to research. Specific objectives can be introduced in the introduction chapter or they can be saved for later after you've provided additional background on the topic and state of the current research and its gaps. The Introductory chapter often concludes with a summary of the organization of the thesis, including identification of the general content of specific chapters and appendices.

1.2 2^{nd} Section Title

Ideally, chapter one defines the overall importance of the problem areas and provides an introduction into what you did, chapter two is why you did it in the context of what was previously known, three is how you did it, four is what you found and five is what it all means - putting the pieces together, (what's your contribution to the research field). It should be noted that the objectives of your research define the OUTCOME, i.e. what will be learned.

1.2.1 Sub-Section Title

The Section has the 2^{nd} order heading. Enter subject matter for Sub-Section.

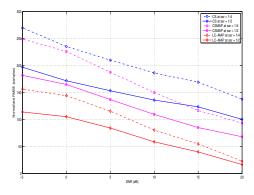


Figure: 1.1 This is a plot to show the results.

1.2.2 Sub-Section Title

The Section has the 2^{nd} order heading. Enter subject matter for Sub-Section.

Itr. No.	$oldsymbol{\Theta}_n$	Size of $\underline{oldsymbol{lpha}}_i$	Res	sidual: r_i^n	$\mathbf{y} = \ \mathbf{y}\ $	$\ _{\mathbf{\Sigma}_i}^2$
(n)	$(L \times n)$	$(n \times 1)$	i = 1	i=2		i = C
1	$oldsymbol{\Theta}_1 = [oldsymbol{ heta}_1]$	(1×1)	r_{1}^{1}	r_{2}^{1}		r_C^1
2	$oldsymbol{\Theta}_2 = [oldsymbol{\Theta}_1 oldsymbol{ heta}_2]$	(2×1)	r_1^2	r_2^2		r_C^2
3	$oldsymbol{\Theta}_3 = [oldsymbol{\Theta}_2 oldsymbol{ heta}_3]$	(3×1)	r_1^3	r_{2}^{3}		r_C^3
:	:	:	÷	:		÷
:	<u>:</u>	÷	÷	:		:
L-1	$oldsymbol{\Theta}_{L-1} = [oldsymbol{\Theta}_{L-2} oldsymbol{ heta}_{L-1}]$	$((L-1)\times 1)$	r_1^{L-1}	r_2^{L-1}		r_C^{L-1}
L	$oldsymbol{\Theta}_L = [oldsymbol{\Theta}_{L-1} oldsymbol{ heta}_{L-1}]$	$(L \times 1)$	r_1^L	r_2^L		r_C^L

Table: 1.1 This is a Table.

1.3 3^{rd} Section Title

Enter the section material.

1.4 4^{th} Section Title

Enter the section material.

CHAPTER 2

TITLE OF CHAPTER 2

Enter material [1].

$$r(n\delta) = \sum_{l=0}^{L-1} a_l g(\delta - m_l \delta) + \omega(n\delta)$$
)2.1(

The sub-sampled signal \mathbf{y} at the receiver can be represented in the matrix form as

$$\mathbf{y} = \mathbf{G}\mathbf{a} + \boldsymbol{\omega} \tag{2.2}$$

where

$$\mathbf{G} = \begin{bmatrix} g(n-m_0) & \dots & g(n-m_N) \\ g(n+\mu-m_1) & \dots & g(n+1-m_N) \\ \vdots & & \vdots \\ g(n+\mu-m_M) & \dots & g\left(n+\frac{M-1}{\mu}-m_N\right) \end{bmatrix}$$

$$)2.30$$

2.1 1^{st} Section Title

Enter material [2].

2.2 2^{nd} Section Title

Enter material [3].

2.2.1 Sub-Section Title

Sub-section.

2.2.2 Sub-Section Title

Sub-section [4].

2.3 3^{rd} Section Title

Enter material [5]

2.4 4^{th} Section Title

Enter section material.

APPENDIX A

PROOFS

APPENDIX B

SUPPLEMENTARY MATERIAL

REFERENCES

- [1] J. Zhang, R. Kennedy, and T. Abhayapala, "Cramer-Rao lower bounds for the time delay estimation of UWB signals," 2004 IEEE International Conference on Communications (IEEE Cat. No.04CH37577), vol. 00, no. c, pp. 3424–3428 Vol.6, 2004. [Online]. Available: http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm? arnumber=1313180
- [2] R. Tesi, M. Hamalainen, and J. Iinatti, "Channel Estimation Algorithms Comparison for Multiband-OFDM," 2006 IEEE 17th International Symposium on Personal, Indoor and Mobile Radio Communications, pp. 1–5, Sep. 2006. [Online]. Available: http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm? arnumber=4022595
- [3] S. Gezici and H. Poor, "Position estimation via ultra-wide-band signals," Proceedings of the IEEE, vol. 97, no. 2, pp. 386–403, 2009. [Online]. Available: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=4796279
- [4] C. Carbonelli, U. Mengali, and U. Mitra, "Synchronization and channel estimation for UWB signals," GLOBECOM '03. IEEE Global Telecommunications

- Conference (IEEE Cat. No.03CH37489), pp. 764–768, 2003. [Online]. Available: http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=1258341
- [5] W. U. Bajwa, J. Haupt, A. M. Sayeed, and R. Nowak, "Compressed Channel Sensing: A New Approach to Estimating Sparse Multipath Channels," *Proceedings of the IEEE*, vol. 98, no. 6, pp. 1058–1076, Jun. 2010. [Online]. Available: http://ieeexplore.ieee.org/lpdocs/epic03/wrapper.htm?arnumber=5454399

VITAE

• Name: Student's Complete Name

• Nationality: Student's Nationality

• Date of Birth: Student's Date of Birth

• Email: Student's NoN-KFUPM email address

• Permenant Address: Student's Permenant Address