**深 圳 大 学 实 验 报 告**

**课程名称：­**

**实验项目名称：**

**学院： 电子与信息工程学院**

**专业：**

**指导教师：**

**报告人： 学号：**

**班级：**

**实验时间：**

**实验报告提交时间：**

**教务处制**

Description of format:

* Use Times New Roman, 12 pt, single column, single line spacing.
* When inserting figures and tables, title of the figures and tables must be included.
* Do not change ‘1、Purposes of the experiment’ and ‘2、Design task and detail requirement’.

**1、Purposes of the experiment**

1. learn the periodogram and Correlogram method to estimate power spectrum.
2. Use Matlab to sample a chirp signal and learn the matched filter.
3. Analyze the results and draw reasonable conclusions

**2、Design task and detail requirement**

See ‘Appendix 1 – Task and requirement for experimental report 3.doc’.

**3、The result and Analysis**

* **Part 1: Basic 1 (40 points)**

You should submit your codes that can generate the figures in 3). The codes should be runnable!

**1) Plot the Periodogram with different window (rectangular and hamming), and compare the results, describe the differences.**

**2) Change the sampling rate, signal length, FFT length and the value of , use the Periodogram to do the spectrum estimation. Show your results (you can use figures and/or figures), and give analysis.**

**3) plot the figures/tables in 2) using your own Periodogram and Correlogram again, and show the comparison between your own Periodogram and Correlogram function and the default Periodogram function used in 2)**

* **Part 2: Basic 2 (40 points)**

You should submit your codes that can generate the figures in 1). The codes should be runnable!

**1) Plot the periodogram of the 1st, 50nd, 100nd run and the power spectrum. (there are totally four figures, show your figures here only, analysis can be given in 2) below)**

**2) Show the power spectrum result for different and provide analysis.**

* **Part 3: Advance (40 points)**

**1)** You are required to submit your code, and your code should directly give all the tables or figures in 1.2).

**1.1) Plot your system flow chart. You can provide necessary explanations.**

**1.2) Give your MSE and success rate results, and analysis, under different SNR. (Hint: use table or figure, and you should choose an SNR range that can at least see ‘100% success’ and ‘100% fail’)**

**2)** You are required to submit your code, and your code should directly give all the tables or figures in 2.2).

**1.1) Plot your algorithm flow chart. You can provide necessary explanations.**

**1.2) Give your MSE and success rate results, and analysis, under different SNR, and compare the results with 1). (Hint: use table or figure, and you should choose an SNR range that can at least see ‘100% success’ and ‘100% fail’)**

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| 指导教师批阅意见：  成绩评定：  指导教师签字：  年 月 日 |
| 备注： |

注：1、报告内的项目或内容设置，可根据实际情况加以调整和补充。

2、教师批改学生实验报告时间应在学生提交实验报告时间后10日内。