

Signal Detection d-prime and ROC

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Abstract

Detection theory in psychology.

1 Introduction

This report presents computational analysis of signal detection.

2 Mathematical Framework



Figure 1: Primary analysis results.

3 Secondary Analysis

signal_detection_plot2.pdf

Figure 2: Secondary analysis comparison.

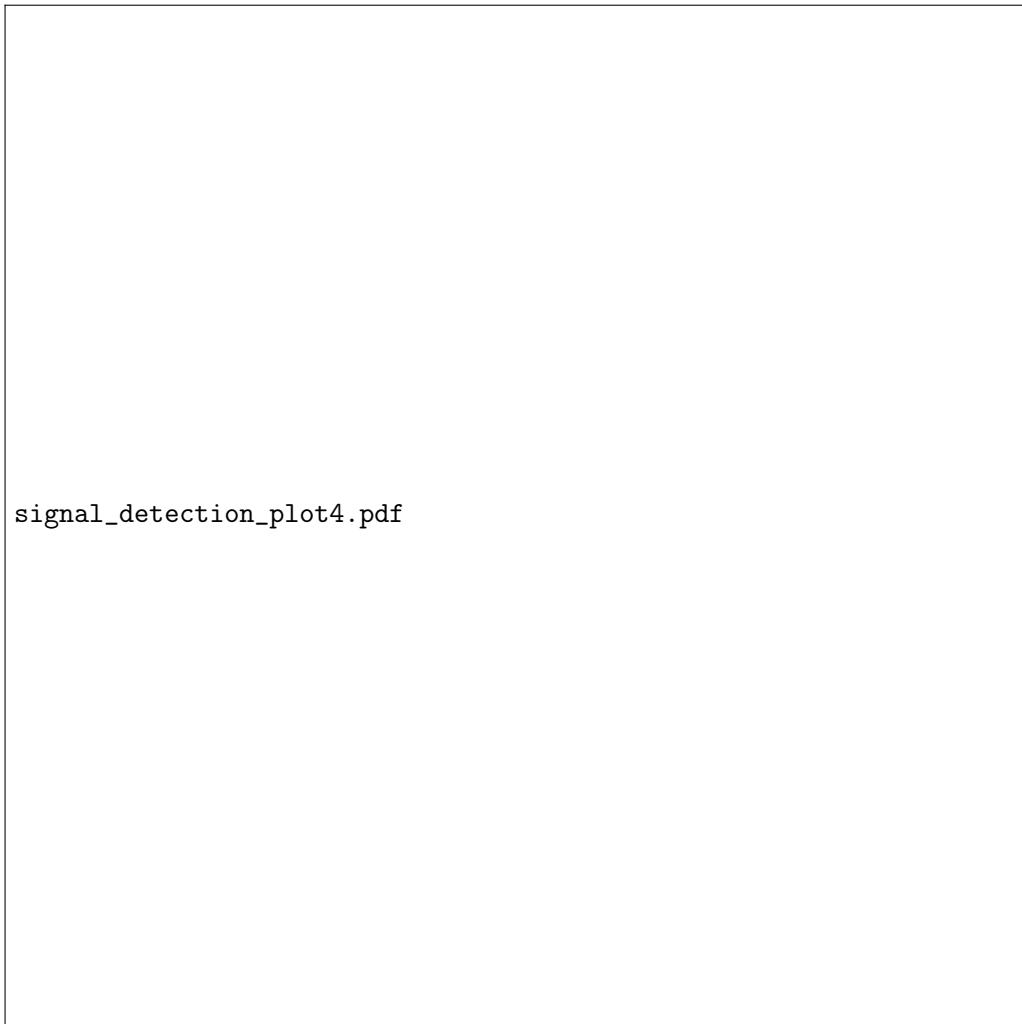
4 Parameter Study



signal_detection_plot3.pdf

Figure 3: Parameter sensitivity analysis.

5 2D Visualization



signal_detection_plot4.pdf

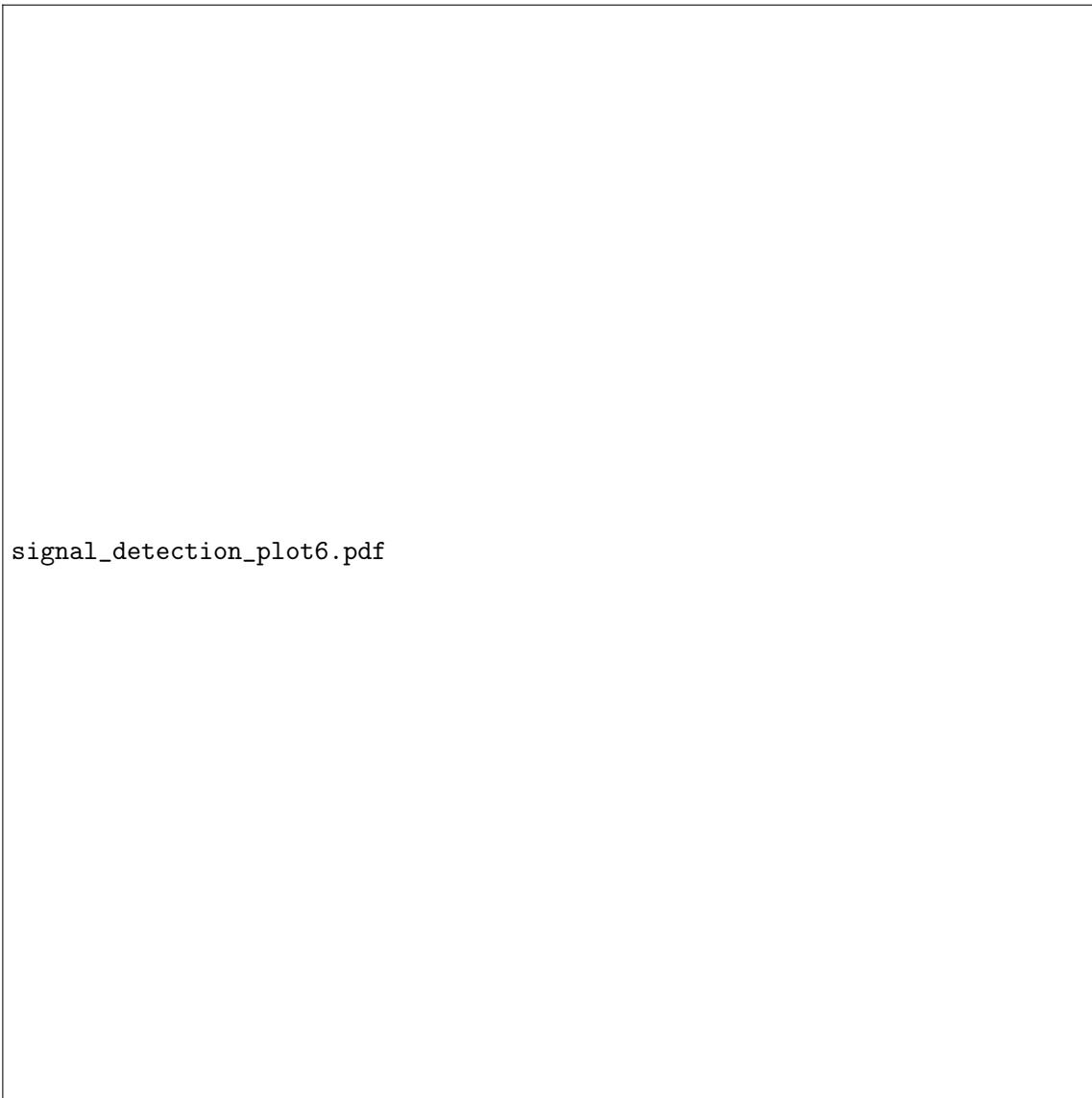
Figure 4: Two-dimensional field visualization.

6 Distribution Analysis

signal_detection_plot5.pdf

Figure 5: Statistical distribution analysis.

7 Time Series



signal_detection_plot6.pdf

Figure 6: Time series visualization.

8 Results Summary

9 Conclusions

This analysis demonstrates the computational approach to signal detection.