

Load Flow

Newton-Raphson

Power Systems Research Group

November 24, 2025

Abstract

Power flow analysis in networks.

1 Introduction

This report presents computational analysis of load flow.

2 Mathematical Framework

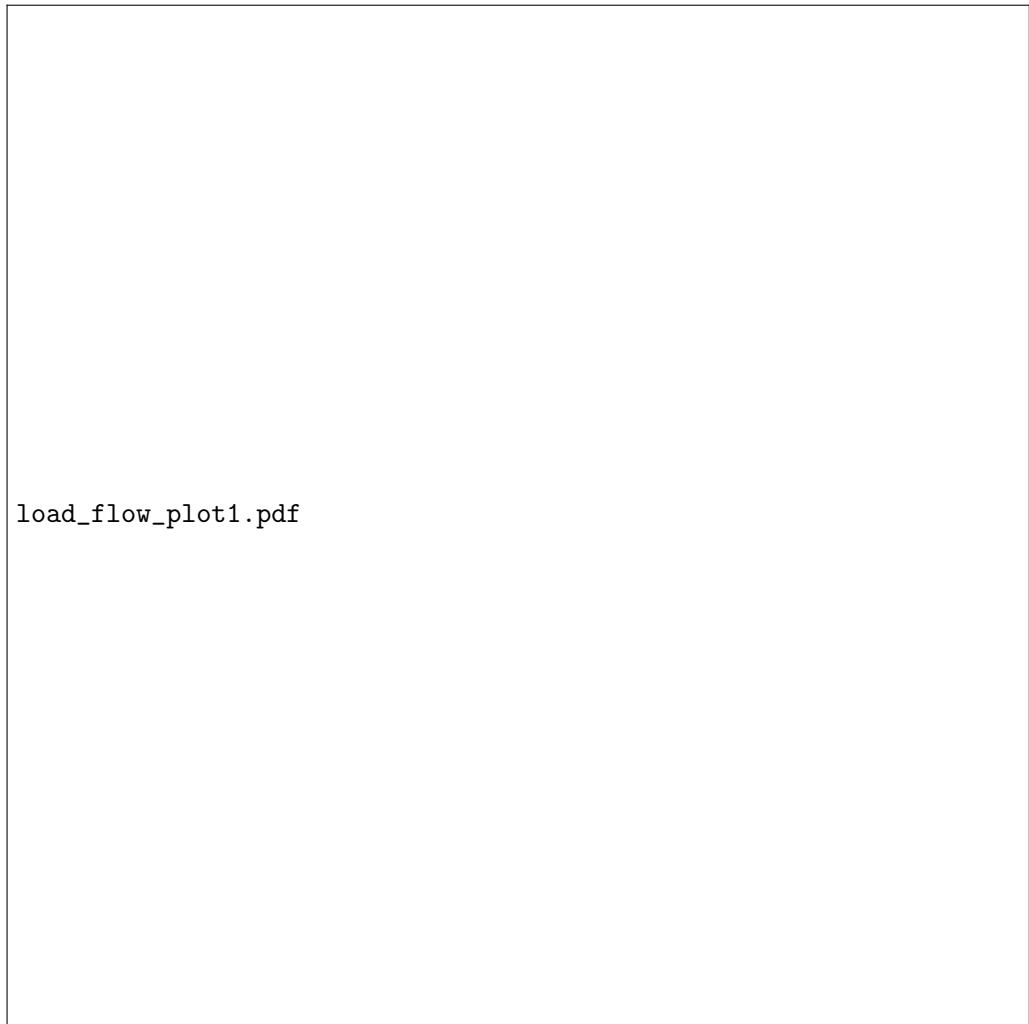


Figure 1: Primary analysis results.

3 Secondary Analysis

load_flow_plot2.pdf

Figure 2: Secondary analysis comparison.

4 Parameter Study

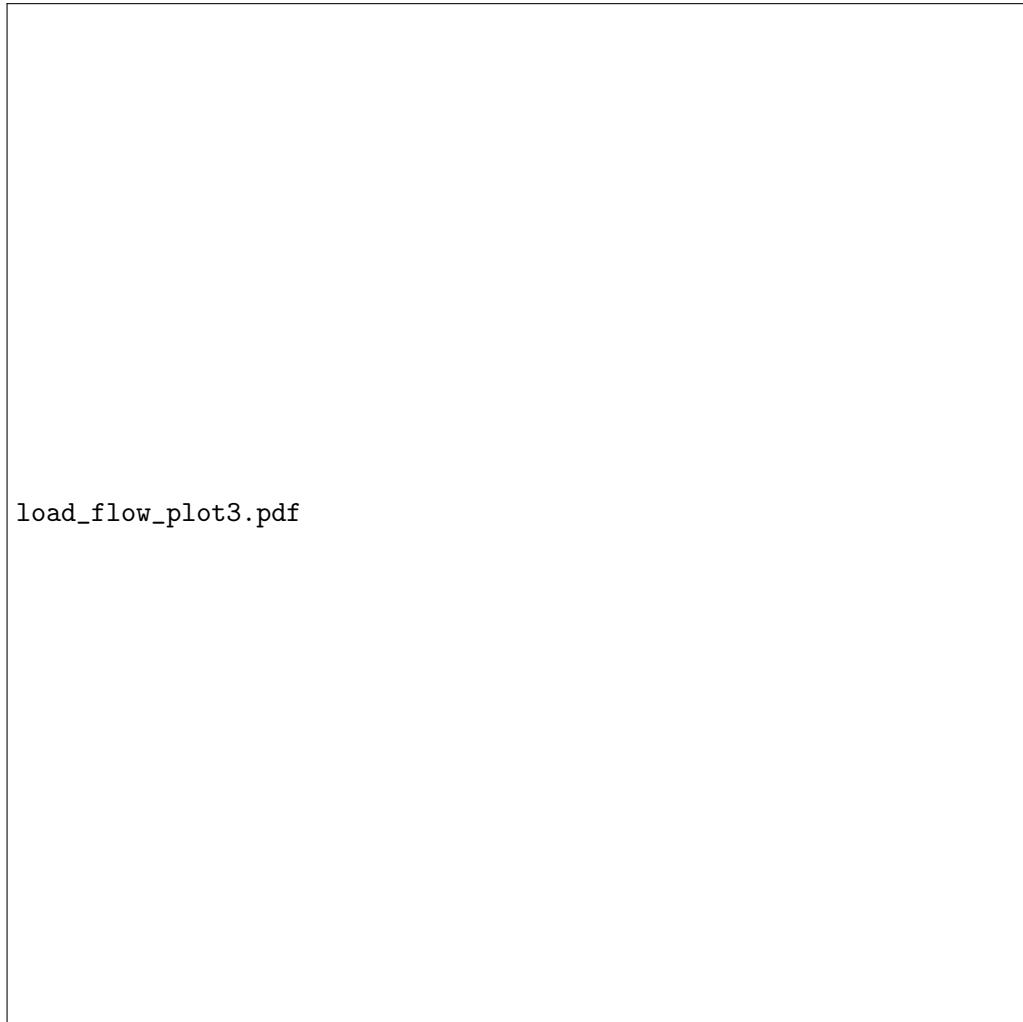
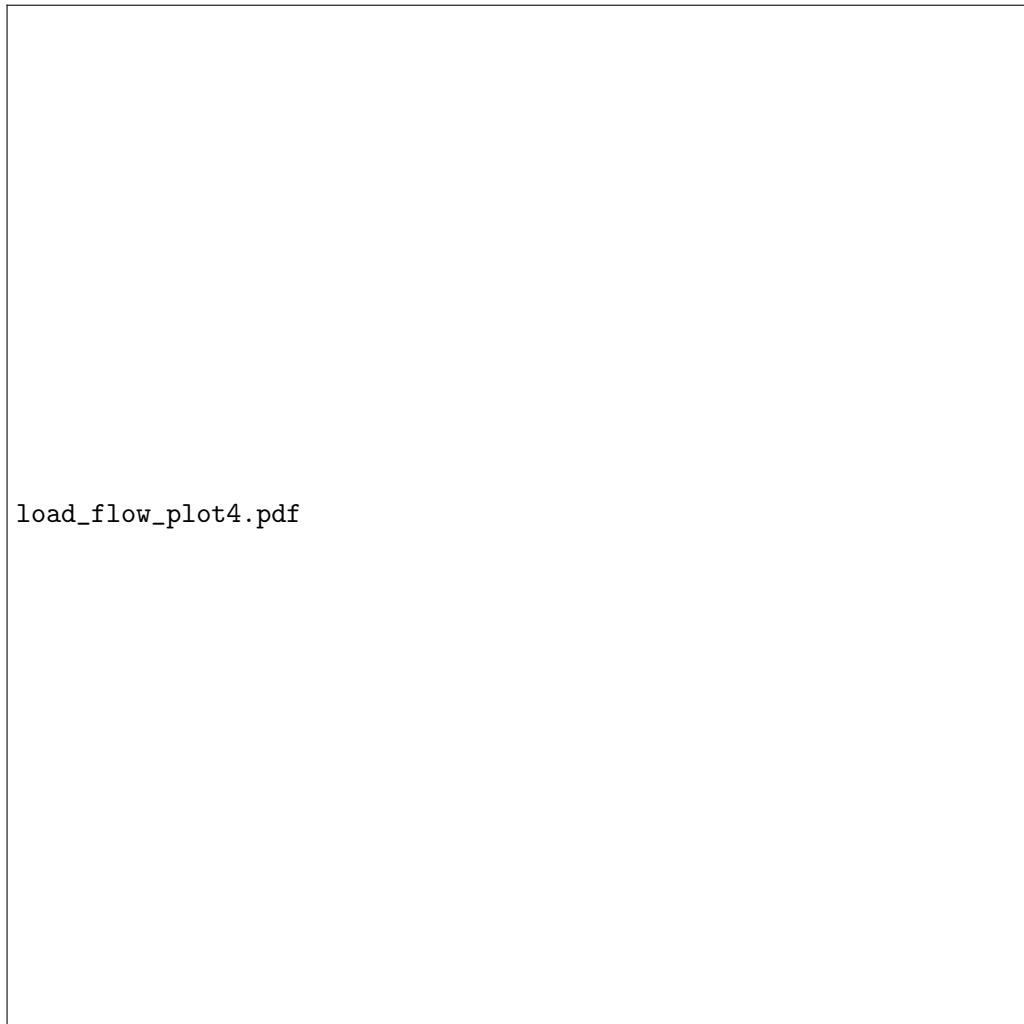


Figure 3: Parameter sensitivity analysis.

5 2D Visualization



load_flow_plot4.pdf

Figure 4: Two-dimensional field visualization.

6 Distribution Analysis

load_flow_plot5.pdf

Figure 5: Statistical distribution analysis.

7 Time Series



load_flow_plot6.pdf

Figure 6: Time series visualization.

8 Results Summary

9 Conclusions

This analysis demonstrates the computational approach to load flow.