

Optimization of the Western Canada Power Grid: Incorporation of Renewable Energy

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Outline

1 Introduction

Forecasting functional data

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- **Problem:** To forecast the **whole function** for future time periods.

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where $\varepsilon_{t,i}$ is iid $N(0,1)$ and $\sigma_t(x_i)$ allows the amount of noise to vary with x .

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- 1 We assume $f_t(x)$ is a smooth function of x .
- 2 We need to estimate $f_t(x)$ from the data for $x_1 < x < x_p$.