Time Series Analysis and Forecasting

Chapter X: Topic Name

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Sample Content Slide

- This hybrid template combines:
  - Logo-rich title page with institutional branding
  - Clean blue Madrid theme for content slides
- Mathematical content renders clearly:

$$y_t = \phi_1 y_{t-1} + \phi_2 y_{t-2} + \varepsilon_t$$

- Suitable for technical lectures

Example: AR(p) Process

Definition 1 (Autoregressive Process)

An autoregressive process of order p, denoted AR(p), is defined as:

$$y_t = c + \phi_1 y_{t-1} + \phi_2 y_{t-2} + \cdots + \phi_p y_{t-p} + \varepsilon_t$$

where $\varepsilon_t \sim WN(0, \sigma^2)$.

Stationarity Condition

The AR(p) process is stationary if all roots of the characteristic polynomial

$$1 - \phi_1 z - \phi_2 z^2 - \cdots - \phi_p z^p = 0$$

lie outside the unit circle.

Summary

- Hybrid approach provides:
  - Strong institutional branding on title page
  - Clean, readable content slides
  - Good contrast for mathematical formulas
  - Professional academic appearance
- Best of both worlds for lecture presentations