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Regional Monitoring Networks in South Africa: Time-Series Forecasting Model for Adoption Rates Evaluation

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Abstract

Regional monitoring networks have been established in South Africa to track scientific adoption rates over time. A comprehensive analysis of regional data will be conducted using advanced statistical techniques to forecast future adoption trends. An initial analysis revealed an upward trend in physics adoption rates across monitored regions, suggesting sustained interest over the past five years. The time-series model demonstrates robust predictive accuracy for future physics adoption rates within South African monitoring networks. Continuous evaluation and adaptation of forecasting models are recommended to ensure ongoing relevance and effectiveness. Physics Adoption Rates, Monitoring Networks, Time-Series Forecasting The empirical specification follows $Y = \beta_{0+\beta}^{\rightarrow} p\, X + varepsilon$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: *Sub-Saharan, geospatial, longitudinal, intervention, econometrics, quantile, panel*