



## INTISARI

### **AGREGASI PERAMALAN HORISON PADA MODEL *INTEGER* *AUTOREGRESSIVE MOVING AVERAGE (INARMA)***

Oleh

KINZIE FELICIANO PINONTOAN

12/336679/PPA/03845

Runtun waktu frekuensi digunakan dalam pemodelan data berupa jumlah kejadian, objek-objek atau individu-individu dalam sebuah interval atau titik-titik waktu. Sebuah grup model dikembangkan untuk data frekuensi dan dinamakan model INARMA. Metode agregasi peramalan horison digunakan dalam adanya kebutuhan peramalan jumlah total frekuensi pada sejumlah periode waktu ke depan. Dibuktikan bahwa agregasi peramalan horison yang tumpang tindih pada proses *INARMA* menghasilkan proses *INARMA* pula. Agregasi peramalan horison dibandingkan dengan pendekatan konvensional  $h$ -langkah dalam bentuk kumulatifnya. Pengidentifikasi model, estimasi parameter, dan proses peramalan waktu tenggang diaplikasikan dalam studi kasus untuk membandingkan akurasi dua pendekatan ini.



## ABSTRACT

### FORECAST HORIZON AGGREGATION IN INTEGER AUTOREGRESSIVE MOVING AVERAGE (INARMA) MODELS

By

KINZIE FELICIANO PINONTOAN

12/336679/PPA/03845

Time series of counts is used in data modelling in the form of counts of events, objects or individuals in consecutive intervals or at consecutive points in time. A class of models for count data was developed and named the *INARMA* models. Forecast horizon aggregation is used for the case in which there is requirement for a forecast of the total value of counts over a number of time periods ahead. It is proved that the overlapping forecast horizon aggregation in *INARMA* process also results in *INARMA* process. Forecast horizon aggregation is compared with the conventional approach  $h$ -step in the cumulative form. Identification, parameters estimation, and the forecast over a lead time are applied in empirical analysis to compare the accuracy of these two approaches.