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SHORT-TERM FORECASTING OF THE MAIN INDICATORS OF THE COVID-19 EPIDEMIC IN UKRAINE BASED ON THE SEASONAL CYCLE MODEL

Alyokhin A.B., Brutman A.B., Grabovoy A.N., Shabelnyk T.V.

Abstract. A method for short-term forecasting of time series of the main indicators of the COVID-19 epidemic, which are characterized by pronounced seasonality, is proposed. The specified method, which has no direct analogues, involves the decomposition of the general forecasting task into a number of simpler tasks, such as building a model of the seasonal cycle of the time series, aggregating the original time series taking into account the duration of the seasonal cycle, forecasting the aggregated time series, deploying the aggregated forecast into a forecast in the original time scale using the seasonal cycle model, the solution of each of which allows the use of relatively simple methods of mathematical statistics. A formally rigorous description of all procedures of the method and an illustration of their numerical implementation using the example of a real forecasting task are given. The use of the specified method for developing short-term forecasts of the development of the COVID-19 epidemic in Ukraine on a systematic basis has demonstrated its effectiveness.

Keywords: COVID-19 epidemic, time series, short-term forecasting, seasonal cycles.